Towards a better understanding of teenagers who have more than one pregnancy: examination of national trends, associated factors and teenagers' experiences

Lisa A McDaid, MSc BSc

A thesis submitted for the degree of Doctorate of Philosophy

June 2016

School of Health Sciences, University of East Anglia

Abstract

This thesis sought to work towards a better understanding of teenagers who have more than one pregnancy within the UK, where there is currently very little literature. To achieve this, there were three distinct strands of research: firstly, a scoping review to identify evidence on the characteristics of young women who have more than one pregnancy and their individual experiences; secondly, a data linkage study bringing together birth registration records with abortion notification records to identify the proportion of teenagers who have more than one pregnancy in England and Wales and the patterns of these according to pregnancy outcome (birth or abortion); and finally, an Interpretive Phenomenological Analysis study to explore young women's experiences of becoming pregnant following an abortion.

The findings revealed that aside from not using long-acting reversible contraception (LARC), there appeared to be few features that characterise a subgroup of young women who are more likely to have more than one pregnancy. As such, perhaps all previously pregnant teenagers should be treated as 'high risk' for further pregnancies. Moreover, it was not possible through the data linkage study to more accurately identify the proportion of subsequent teenage pregnancies in England and Wales. This was primarily due to the lack of a unique personal identifier on both datasets. This thesis therefore advocates a change in routine data collection to include NHS number on *all* abortion notification forms to maximise the use of these data.

The qualitative findings highlighted that, while there were some collective narratives, each young woman's story also had its own unique features. They were faced with a range of choices as they tried to manage their fertile lives following an abortion. However, these choices were situated within broader social contexts and sometimes they had little to tangibly choose from. Pregnancy was often a reassessment point where the young women looked at where their lives were heading, their relationships, and their sexual behaviour, and made changes - but in the unpredictable and changing world of adolescence, these were often not maintained.

Contents

List of tables

List of figures

List of Appendices

Acknowledgements

I would first and foremost like to thank the young women who so kindly and generously shared their stories with me. I feel privileged to have had this opportunity and hope I have communicated (to the best of my abilities) what it is like to have a subsequent pregnancy from a teenager's perspective.

I would like to thank my excellent supervisory team, Professor Jacqueline Collier, Professor Mary Jane Platt, Dr Charlotte Salter and Professor Gillian Schofield, for all support, advice and constructive feedback. I faced many challenges along the way, but with their reassurance and encouragement I eventually got there!

I am indebted to all of the clinical staff and nurses involved in helping me to recruit young women to the study. Special thanks to Dr Catherine Schunmann at the Norwich iCASH for her insight in this area and enthusiasm, Miss Anna Haestier at the Norfolk and Norwich University Hospital NHS Foundation Trust for allowing me to hang around her antenatal clinic every Monday morning for months on end, Dr Jane Preston at the James Paget University Hospital NHS Foundation Trust for her support with identifying patient and public involvement representatives, and both Michelle Ackroyd from the Norfolk Family Nurse Partnership and Linda Street from the Mancroft Advice Project (MAP) for helping to introduce me to young women.

I would also like to extend my warmest thanks to the abortion statistics team at the Department of Health for the enormous task of linking together the abortion notification and birth registration data.

Finally, special thanks to Julie Harris and Christopher Marchand, who both meticulously proof read this thesis.

List of Abbreviations

BMA	British Medical Association
CASH	Contraceptive and Sexual Health
CCG	Clinical Commissioning Group
CI	Confidence interval
CMO	Chief Medical Officer
DCSF	Department for Children, Schools and Families
DfE	Department for Education
DfEE	Department for Education and Employment
DfES	Department for Skills and Education
DH	Department of Health
FNP	Family Nurse Partnership
FPA	Family Planning Association
GCP	Good Clinical Practice
GP	General Practitioner
GRO	General Register Office
HES	Hospital Episode Statistics
HSCIC	Health and Social Care Information Centre
IAG	Independent Advisory Group
IPA	Interpretive Phenomenological Analysis
IUD	Intrauterine device
IUS	Intrauterine system
LARC	Long-acting reversible contraception
MAP	Mancroft Advice Project
MEDFASH	Medical Foundation for HIV & Sexual Health
MMAT	Mixed Methods Appraisal Tool

Natsal	National surveys of sexual attitudes and lifestyles
NICE	National Institute for Health and Care Excellence
NHS	National Health Service
NSC	National Survey of Children
NSFG	National Survey of Family Growth
NSY	National Survey of Youth
ONS	Office of National Statistics
PHE	Public Health England
PSHE	Personal and Social Health Education
RCOG	Royal College of Obstetricians and Gynaecologists
RCT	Randomised control trial
REC	Research Ethics Committee
SEU	Social Exclusion Unit
SRE	Sex and relationships education
STI	Sexually transmitted infection
TPC	Teenage Pregnancy Coordinator
TOP	Termination of pregnancy
TPIAG	Teenage Pregnancy Independent Advisory Group
TPU	Teenage Pregnancy Unit
UEA	University of East Anglia
UK	United Kingdom
US	United States
WHO	World Health Organisation

Chapter 1: Introduction

Reducing teenage pregnancy has been a priority of successive governments in the United Kingdom (UK). Rates of teenage pregnancies[1] have been in steady decline since the 1970s but these have fallen considerably since 2007 and are now at an all-time low. While this progress is encouraging, there is still more work to be done. International comparisons of conception statistics (all pregnancies resulting in a live birth, stillbirth or abortion) are difficult as many countries have incomplete abortion statistics. However, the rate of teenage *births* in England and Wales is reported to be higher than in other Western European countries (ONS, 2016a) and among those European countries with comprehensive abortion records, the highest rates of teenage *abortions* are found in England and Wales and Sweden (Sedgh *et al*, 2015). The ratio of teenage births to abortions for England and Wales is average for European countries (*ibid*). Within the UK, there is also considerable geographic variation in teenage pregnancy, with direct links to deprivation, wider community norms, differential access to services, and diverse local practices in relation to prevention (Arai, 2009, see pp.19-38).

1.1 The contribution of subsequent pregnancies to teenage pregnancy figures

Not all teenage pregnancies are first-time conceptions, so some individuals may be overrepresented in the teenage pregnancy figures. However, determining the number of teenagers who have a second or subsequent pregnancy is difficult, as these data are not routinely recorded at present. Estimates from individual studies in the UK suggest that between 12.5% and 30% of teenage pregnancies are to teenagers who have been pregnant at least once before (Churchill *et al*, 2000b; DfSE, 2006; Perrow, 2004; Wellings *et al*, 1996). National administrative datasets also provide an indication of the proportion of subsequent pregnancies in teenagers. Changes made to the Population (Statistics) Act 1938 in May 2012 now mean that records of birth registrations capture information on previous

[1] Under 16, under 18 and under 20

children for both married and unmarried women (formerly this was collected for married women only) (ONS, 2012a). The first year these data were published showed that 25.0% of young women aged under-20 who registered a birth had had a previous live birth (ONS, 2014a) and in 2014, there was a marginal decline to 24.3% (ONS, 2015).

Information on young women having an abortion is collected through Department of Health (DH) abortion notification forms (HSA4); these include details of previous births, abortions and miscarriages. In 2014, 12.9% of young women aged under-20 undergoing an abortion had had one or more previous abortions and 11.1% had had one or more previous live births or stillbirths (DH, 2015a). From published abortion statistics it is not possible to identify the number of young women with a history of previous pregnancy (either resulting in birth and/or abortion) as the categories are not mutually exclusive. Addressing this issue, McDaid *et al* (2015) used record level data derived from abortion notification forms to highlight that nearly one in four teenagers who had an abortion in 2013 had been pregnant before (22.9% of young women aged under-20 presenting for an abortion). Looking at the percentage change from 1992-2013 showed that this had risen by 30.0% (from 17.2% in 1992 to 22.9% in 2013). However, most of the change occurred prior to 2004 and since then the level has remained stable.

1.2 The impact of subsequent teenage pregnancy

Evidence of the impact of subsequent teenage pregnancy varies depending on the pregnancy outcomes investigated, with studies typically focusing on the cumulative effect of having the same outcome with each pregnancy. The strongest link between negative outcomes and subsequent pregnancy is for young women who have more than one birth. For these young mothers, research suggests that having a second child can compound the challenges of a first, making it harder for them to return to education and become economically

independent (Furstenberg *et al*, 1987; Klerman, 2004; Polit & Kahn, 1986). Kalmuss and Namerow (1994) argued this is particularly significant as it will shape the physical, social and economic environment in which the children of these young mothers grow up in. There is also some evidence linking subsequent teenage childbearing to poorer pregnancy outcomes. For example, one recent study on pregnancy intervals among teenagers suggested that having an interval of less than one year between giving birth to one child and conceiving the next may be associated with having a preterm birth (Nerlander *et al*, 2015); although other maternal characteristics may have played a role.

There is limited evidence of harm to those teenagers who have more than one abortion, especially those carried out in the first 12 weeks of pregnancy - largely it is a case of moral censure (Rowlands, 2014, see pp.163-174). One study from Denmark suggested that women who have more than one abortion may have a small increased risk of premature labour, particularly following three or more abortions (Klemetti, 2012); although the observational design limits the generalisability of this study. Nonetheless, having an unplanned pregnancy can be a distressing experience and forces these young women to make a potentially life-changing decision. Even young women who have more positive attitudes towards subsequent pregnancy may find themselves pregnant before they want to be. Arguably, therefore, it would be preferable, from the perspective of the young women concerned, if they were able to better manage their fertility (Bury *et al*, 2015; Hoggart *et al*, 2010).

1.3 The reasons young women have subsequent pregnancies

There has been a significant amount of research on teenage pregnancy. By comparison, relatively little is known specifically about teenagers who have more than one pregnancy. Subsequent teenage pregnancy is a complex issue. A growing number of studies have sought to identify factors associated with pregnancy among previously pregnant and parenting teenagers. Most of these

originate from the United States (US), where different cultural influences are at play and contraception may not be easily available or free of charge. Among the factors thought to be associated with subsequent teenage pregnancy are: low socio-economic status (Rigsby *et al*, 1998; Rowlands, 2010); lower educational attainment (Kalmuss & Namerow, 1994; Meade & Ickovics, 2005; Rigsby *et al*, 1998); dropping out of school either prior to or after the index pregnancy (Meade & Ickovics, 2005; Rowlands, 2010); marriage or living with partner (Kalmuss & Namerow, 1994; Rigsby *et al*, 1998; Rowlands, 2010); not using long-acting reversible contraception (LARC) (Lewis et *al*, 2010a; Meade & Ickovics, 2005; Rigsby *et al*, 1998); positive childbearing attitudes (Meade & Ickovics, 2005; Rigsby *et al*, 1998; Rowlands, 2010); and prior poor obstetric outcome (Meade & Ickovic, 2005). Evidence of the relationship between younger maternal age and likelihood of subsequent pregnancy is conflicting (*ibid*). There appears little consensus on how these variables interact, nor the magnitude or direction of their association with subsequent teenage pregnancy.

Some authors have suggested that it may be helpful to differentiate between intended and unintended subsequent pregnancies, as the young women's attitudes and behaviours towards pregnancy may differ (Boardman *et al*, 2006). However, defining 'intendeness' of pregnancy is difficult as it is not a static concept, and often terms such as 'unintended' and 'unwanted' are used interchangeably (Whitaker *et al*, 2016). It has also been suggested that while teenagers may not necessarily want to become pregnant, often they may not be actively trying to prevent pregnancy either (Borrero *et al*, 2015).

There is very little qualitative research exploring what life is like for young women who have more than one pregnancy. One study looking at teenage mothers who had been pregnant more than once found that sexual activity was often spontaneous and sometimes involuntary, while for other young women pregnancy was the result of careful deliberation (Herrman, 2007). Qualitative synthesis in a recent systematic review of interventions to prevent subsequent

unplanned teenage pregnancies also highlighted that many teenagers who have more than one pregnancy do so in the context of poor socioeconomic conditions, a lack of personal goals or aspirations, to please a partner, to replace pregnancy loss or to complete their family whilst still young (Whitaker *et al*, 2016). Moreover, a UK study exploring why some teenagers have more than one abortion suggested that these young women may have poor awareness of their own fertility following an abortion or may find it hard to use their preferred choice of contraception (Hoggart *el al*, 2010; Hoggart & Phillips, 2012). What can be drawn from these studies is that young women are not a homogenous group, and have different motives and needs. It is clear that further research is needed to understand the complex experiences of those teenagers who become pregnant more than once. Such research can then guide the development of future policy and practice to enable young women to make informed decisions about managing their fertility and to help them avoid becoming pregnant when they do not want to be.

1.4 Government policy on subsequent teenage pregnancy

In 1999, the Labour government launched their *Teenage Pregnancy* strategy (SEU, 1999). This pledged to halve the conception rate among under-18s by 2010. This target was not met, but concerted efforts led to a 27.2% reduction (from the baseline year in 1998 to 2010) (see Appendix 1 for *Teenage Conception, Maternity and Abortion Data*). In 2010, the newly formed coalition government decided against developing specific targets on teenage pregnancy, although teenage pregnancy prevention and support continued to be a priority. The *Public Health Outcomes Framework 2013-2016* (DH, 2012) included reducing the under-18 conception rate as a sexual health indicator. Alongside this, the *Framework for Sexual Health Improvement* (DH, 2013) identified the further reduction of under-18 and under-16 conception rates as priority areas for sexual health improvement. Similar priorities were also included within the strategies of

devolved governments (Welsh Assembly Government, 2010; The Scottish Government, 2016).

The policy framework for supporting subsequent pregnancy among teenagers is an emerging one. The issue received little acknowledgement in the *Teenage Pregnancy* strategy, which primarily focused on preventing motherhood and helping young parents; with the aftercare of young women who have an abortion somewhat overlooked. However, since then the issue of subsequent pregnancy following a birth or abortion has received greater recognition in policy documents. Additionally, around the time the work presented in this thesis began, there was a surge of interest in the increasing proportion of teenagers who have more than one abortion, prompting questions about the effectiveness of sexual health policy in the UK.

In terms of current policy and guidance, the National Institute for Health and Care (NICE) published guidelines on *Contraceptive Services with a Focus on Young People up to 25* (NICE, 2014), which included recommendations on providing contraceptive services after pregnancy or abortion. The *Framework for Sexual Health Improvement* (DH, 2013) also recognised the need to "reduce repeat abortion and unwanted pregnancy after childbirth" among all women of fertile age (p.35). However, the reason for this concern was not provided. In terms of local provision, responsibility for public health transferred from the National Health Service (NHS) to local authorities in 2013, meaning local authorities are now charged with commissioning sexual and reproductive health services. In addition, NHS England commissions further contraceptive services under the GP contract. Local Clinical Commissioning Groups (CCG) have responsibility for commissioning abortion and maternity services. The increasing fragmentation of contraception, abortion and maternity services makes it more challenging for those delivering these services to work together to ensure integrated, good quality care.

There remains significant scope for more targeted policy and support for teenagers at risk of having more than one pregnancy. By definition, these teenagers will be of fertile age and are already sexually active, and as such, prevention of subsequent pregnancies may be more challenging than first-time pregnancies (Rowlands, 2010). That said, pregnancy itself may provide a critical 'window of opportunity' (Meade & Ickovics, 2005) in terms of contact with health services. Listening to young women and understanding more about how best to support them to delay, prevent or even pursue subsequent pregnancies, will help to better guide approaches.

1.5 Terminology

For the purposes of this thesis, the terms 'subsequent pregnancy' and 'more than one pregnancy' have been used to describe the incidence of two or more pregnancies in young women before the age of 20. These can follow a pregnancy that ended in a birth, abortion or miscarriage. The term 'repeat pregnancy' which has been extensively used in literature has been avoided due to its negative connotations. The term has only been used verbatim in reference to its use in other literature.

1.6 The focus of this thesis

This thesis aimed to work towards a better understanding of teenagers who have more than one pregnancy in England and Wales, by seeking to answer three research questions:

Question 1: What factors are associated with teenagers who have more than one pregnancy?

This aimed to identify (and summarise) those young women who are most likely to have a subsequent pregnancy. Given the complexity of the topic an inclusive search strategy was used to cover different patterns of pregnancy outcomes (by, for example, teenage mothers who have any subsequent pregnancy, teenage

mothers who have more than one child, teenagers who have more than one abortion). Both qualitative and quantitative studies were included in the review.

Question 2: What are the incidence and associated patterns of subsequent teenage pregnancy in England and Wales and how have these changed?

This sought to gain a more complete picture of patterns and trends in teenagers who have more than one pregnancy in England and Wales. It also aimed to explore local geographic differences, as well as interpregnancy intervals (defined as the time from when the teenager's first or subsequent pregnancy was resolved (birth or abortion) to the next time they conceive).

Question 3: What are young women's individual understandings and lived experiences of becoming pregnant following an abortion?

This sought to explore the individual experiences of young women who have become pregnant following an abortion and how they make sense of these. It also aimed to better understand their unmet needs. The sample of young women were asked to describe their lives up to their most recent pregnancy, their choices relating to contraception, and their experiences of sexual health and abortion services.

By linking the findings together from each of these research questions the implications for the future development of sexual health policy and services could be examined.

1.7 Research approach

A mixed methods approach was taken to answer these research questions. A scoping review framework was used to 'map' the literature on factors associated with subsequent teenage pregnancy. This was adapted to include a quality appraisal of the studies and a relevance score. The Mixed Methods Appraisal Tool (MMAT) was used to assess the quality of studies, while relevance was assessed

on duration of follow-up, social and cultural setting of the research, the ethnic composition of participants, and when the research was carried out. Next a unique dataset, linking birth registration and abortion notification records for young women in England and Wales who gave birth or had an abortion before the age of 20 was created to help identify subsequent pregnancies between 2004 and 2013. Lastly, an Interpretive Phenomenological Analysis (IPA) approach was used to explore the individual experiences of young women who had become pregnant following an abortion and the meanings they ascribed to these experiences.

1.8 Chapter outline

Following this introduction chapter, the thesis is presented in the following chapters:

Chapter 2: **Young women, sexual behaviour and pregnancy** explores sexual development and behaviours in the teenage years, contraceptive use and effectiveness, and which teenagers are most likely to become pregnant. It then briefly looks at pregnancy decision-making in teenagers and factors that influence whether young women decide to continue with a pregnancy.

Chapter 3: Recent trends in teenage pregnancy and subsequent teenage pregnancy examines national administrative data for conceptions in young women under 20, normally resident in England and Wales. It discusses rates and trends in teenage conceptions and abortions from 1998 (the baseline year for the *Teenage Pregnancy* strategy). It then looks at available data on subsequent teenage pregnancy, highlighting the limitations of national administrative datasets in identifying the overall proportion of teenagers who have more than one pregnancy.

Chapter 4: Policy and practice context of the research examines recent policies on teenage pregnancy. It highlights the emerging recognition of the likelihood of subsequent pregnancy among young women who have been pregnant. It then

considers the legal context for abortions in England and Wales before looking at how sexual health and reproductive health services for young people are commissioned and delivered.

Chapter 5: Research methods details the approach used for the primary research and discusses why both qualitative and quantitative methods were chosen. It describes the unique administrative dataset that was created linking birth registration and abortion notification records from 2004-2013 for young women who had a birth or an abortion before the age of 20, along with match quality and the analytical approach. It then discusses the scoping review approach and procedures. Finally, it introduces Interpretive Phenomenological Analysis (IPA) and provides a detailed account of how this method of qualitative inquiry was used in the conduct and analysis of semi-structured interviews exploring young women's experiences of becoming pregnant following an bortion.

Chapter 6: Young women who have more than one pregnancy – a review of the literature presents results from this review to identify which young women are most likely to have more than one pregnancy. Following this, a more limited number of qualitative studies on the experiences of teenagers who have more than one pregnancy and review articles on interventions to reduce subsequent teenage pregnancy are discussed.

Chapter 7: **Challenges of using routinely collected data to identify patterns and trends in subsequent teenage pregnancy in England and Wales.** This chapter initially intended to present findings from the analysis of the newly linked dataset bringing together birth registration and abortion notification data. Instead, it provides a detailed discussion of the numerous challenges encountered in trying to track previous pregnancies in young women in England and Wales.

Chapter 8: **The experiences of young women who become pregnant following an abortion** presents findings from the qualitative interviews with 10 young

women. The results are divided into key themes derived from the Interpretive Phenomenology Analysis to offer insight into how these young women made sense of their experiences, using both descriptive accounts and interpretation.

Chapter 9: Discussion on teenagers' experiences of pregnancy following abortion looks at the findings from the qualitative analysis in relation to existing literature and theory.

Chapter 10: **Synthesis, conclusions and recommendations** brings together the findings from the scoping review and the qualitative and quantitative research strands, in order to integrate the evidence and enhance understanding of this complex topic. It then assesses the strengths and weaknesses of the study and makes recommendations for policy and practice, and for further research.

Chapter 2: Young women, sexual behaviour and pregnancy

As with many social issues teenage pregnancy is a consequence of behaviour, specifically sexual and contraceptive behaviour. However, the intersection between teenagers and pregnancy is a complex one, entwined in developmental, structural and discursive processes. Sexual development is a normative part of growing up. Not only do physical changes occur, but young people are exposed to a range of sociocultural messages about how sexuality should be expressed (Marston & King, 2006). Once a young woman is sexually active there is a chance she can become pregnant and pregnancy in the teenage years often carries a social stigma, which Goffman defined as "an attribute that is deeply discrediting" (1963, p.3). With this in mind, this chapter aims to provide context for the thesis by briefly exploring the nature of teenage sexuality and representations of pregnant teenagers, before looking at research on teenage sexual behaviour, contraceptive use and the effectiveness of different methods. It then provides an overview of the factors associated with teenage pregnancy and explores pregnancy intentions and decision-making in relation to pregnancy outcomes.

2.1 Adolescent sexuality and representations of pregnant teenagers

The teenage years are chronologically associated with the period known as adolescence. The term is commonly used to describe the transitional stage between childhood and adulthood in which the brain matures and a range of cognitive, emotional, and behavioural changes take place (Archibald *et al*, 2006). Because these regulatory systems develop at different rates, influenced by sociocultural and biological processes, adolescence is considered to be a period of heightened vulnerability and adjustment (Steinburg, 2005), and increased emotional reactivity (Casey *et al*, 2008).

Discoveries in developmental neurosciences have shown structural and functional changes in the frontolimbic region of the brain continue throughout adolescence (Casey *et al*, 2005; Paus, 2005). This area is linked to the regulation

of emotion and behaviour (Steinberg, 2005). Young people also begin to experience emerging sexual feelings often co-occurring with the onset of puberty and increase in sexual hormones and motivation. This can create a disjunction between affective experience and the young person's ability to regulate arousal and motivation (*ibid*). They may experiment with a range of sexual behaviours, learn the costs and rewards associated with them, and have to recover from mistakes (Herrman, 2005; Moore & Rosenthal, 2007). Therefore, thinking about teenagers cognitive abilities as still "under construction" (Wallis, 2004, p.59); can provide a framework for understanding age differences in affect and decision-making, and in sensation-seeking (Steinberg, 2014). For example, during early adolescence young people may be less likely to think about their long-term goals or the potential consequences of their actions (Steinburg, 2005), but in later adolescence they may feel an increased need to regulate their behaviour in accordance with these.

Much attention has therefore been given to the concept of 'risk' during this time (Coleman & Hagell, 2007; Crockett & Petersen, 1993). The tendency towards making impulsive or short-term risk-related decisions during adolescence can have important implications for a young person's development and the cumulative impact may make certain life outcomes less likely. There is also the possibility that these decisions develop into more regular patterns of behaviour, such as smoking, drug and alcohol use, and unprotected sexual activity (Crockett & Crouter, 1997; Steinberg, 2007). These behaviours can have serious physical and social consequences and some can also inhibit decision-making capabilities.

The recognition of individual variability in impulse control, regardless of age, is also important, as these individuals may be more likely to experience negative outcomes. Inhibition or the protracted development of the prefrontal cortex alone however cannot explain these differences, as both have a strong correlation with age (Casey *et al*, 2008). Therefore it has been argued that changes in reward processing may relate to the increased likelihood of risk-taking in some

adolescents (Bjork & Pardini, 2015; O'Doherty, 2004). Bjork and Pardini (2015) also cautioned against attributing severe risk-taking behaviour in adolescence to differences in normative neurodevelopment. Instead they suggested atypical maturation is likely to result in significant individual differences and that frequently adolescents who engage in risky behaviour have a history of behaviour disinhibition since childhood.

In modern society, age is one of the fundamental ways in which behaviour is regulated (Neugarten *et al*, 1965). During adolescence, informal and formal means of social control dictate ideas about the *normal* age at which certain events should occur. These ideas create expectations about the *appropriate* timing of motherhood (Shaw & Giles, 2009). In Britain, as in many Western societies, the gap between biological maturity and social maturity has been widening. While the age of menarche has been falling (Morris *et al*, 2011), young people today are expected to stay in school longer and remain in education or training until at least the age of 18 (DfE, 2015). Higher education and work are now increasingly part of young women's lives and with more effective contraceptive options available, many are opting to delay childbearing (Wellings & Johnson, 2013). Consequently the average age of first-time mothers in England and Wales now stands at 28.5 years (ONS, 2015). That said, growing up may be a far more individualised process than age-related norms and behaviours prescribe.

There is constant tension connected with teenage sexual activity, especially among younger teenagers. Hoggart (2003) argued that people with a more traditional or conservative attitude typically regard teenage sexual activity as inherently problematic. This inhibits open discussion about the possibility of having consensual, safe and pleasurable sexual experiences (Hirst, 2013; McGeeney, 2015). As Crockett *et al* (2006) argued "These competing perspectives co-mingle, creating a situation where adolescents are exposed to sexual material in settings of daily life but given inadequate preparation to behave responsibly in those situations. Feelings of sexual desire and love collide with social

prescriptions to show restraint, setting the stage for psychological and behavioural inconsistency" (p. 371).

Public opinion on issues such as teenage pregnancy is influenced by discourses in the mass media. There is a tendency within the British press specifically to take a negative tone when framing teenage pregnancy and abortion, and the use of demographic data is often decontextualised, meaning people may draw mistaken conclusions (Arai, 2009, see pp. 39-53). An IPSO Mori survey looking at 'perceptions which are not reality' showed that on average, the public overestimate the rate of teenage pregnancy by 25 times more than official figures (IPSO Mori, 2013). For the young women themselves there is often an expectation of stigma associated with teenage pregnancy. They perceive being seen as promiscuous and having acted irresponsibly; although research on women presenting for an abortion has shown that teenagers are no less careful with contraception than older women (Harvey & Gaudoin, 2007). There is also a common presumption that young mothers have been encouraged by social benefits and housing provision and will be trapped by the consequences of early childbearing. However, the evidence to support the first of these claims is weak (Wilson & Huntington, 2006) and as Furstenberg (2003) suggested: "early childbearing disrupts the lives of young mothers, although not nearly as much as most people believe" (p.25).

Even those young women who decide to end their pregnancy in abortion face stigmatisation for their reproductive decisions and what is widely perceived as a 'deviant' or negative practice (Purcell *et al*, 2014), rather than a rational decision within the context of their lives. Critical consideration of these popular representations and the construction of risk in teenage pregnancy is therefore imperative as both can influence individual experiences and self-identity in teenagers who become pregnant (Luttrell, 2011, 2014).

Negative stereotypes are reinforced and often amplified with each pregnancy a young woman has. Moral panic in the media principally focuses on two issues: births to teenage mothers who already have children and young women who have more than one abortion. The first of these is accompanied by depictions of dependent young women who further limit their chances in life with each child, whilst the second features the irresponsible and immoral teenager who is relying on 'abortion as a form of contraception'. Often atypical cases and emotive language are used to reinforce these perspectives, which only serve to sensationalise the issue (Purcell *et al*, 2014; Aria 2009, see pp. 39-53). Examples of some of the headlines used in national newspapers are show in Figure 1.

Figure 1: Subsequent teenage pregnancy hitting the headlines

Indeed, around the time this thesis began, subsequent abortions to teenagers had become the focus of media attention. On Friday 25th May 2012, the *Daily Mail* published an article with the headline 'The teenagers who have had EIGHT abortions: Shocking figures show girls use 'traumatic' procedure as a form of

contraception'[2]. While two days later, on 27th May 2012, *The Sun* opted for the headline 'Three teenagers had at least 24 abortions between them'[3]. These portray young women who have more than one abortion as non-normative, and either lacking in knowledge or irresponsible for not practicing safe sex. In doing so, they served to further perpetuate the difficulties that these young women face and can make it harder for them to talk more openly. When, in fact, what is largely absent from the literature, and arguably policy, is the perception of the young women themselves and a detailed insight into the complexity of their life experiences.

In summary, adolescence is a unique stage in the life-course which poses fundamental challenges. The developmental pathways that young women take will be influenced by individual and social factors which provide context to their experiences. Recognising the integrated and subjective nature of sexuality in adolescence is not only the first step in understanding teenage pregnancy, but it is also important for understanding the meaning young women attach to their own experiences.

2.2 Sexual behaviours and relationships

Sexual behaviour among young people in the UK has changed over recent decades in response to social and cultural influences (Marston & King, 2006). The National Survey of Sexual Attitudes and Lifestyles (Natsal) studies are a key resource for identifying sexual health trends in Britain (Siva, 2013). Now in its third cycle, this cross-sectional, probability sample survey has been carried out in ten-year intervals since 1990-1991 (Natsal-1 - 18,876 participants aged 16-59), with the second in 1999-2001 (Natsal-2 - 12,110 participants aged 16-44) and third in 2010-12 (Natsal-3 - 15,000 participants aged 16-74)[4]. These have revealed a range

[2] Available online at: www.dailymail.co.uk/news/article-2149753/Teenage-girls-EIGHT-abortions-let-appalling-way-38-000-undergo-termination-single-year.html [Accessed 16th June 2016]
[3] Available online at: www.thesun.co.uk/sol/homepage/news/4337887/Three-teenagers-had-at-least-24-abortions-between-them.html [Accessed 16th June 2016]
[4] See http://www.natsal.ac.uk/home.aspx [accessed 2nd May 2016]

of important findings in relation to the nation's sexual behaviour and attitudes, and help to provide context for understanding both first-time and subsequent pregnancies in teenagers.

The Natsal-3 survey showed that the average age of first intercourse for women is currently 17. However, the analysis also revealed that among older women (aged 65-74), the average age of first intercourse was 19 and this decreased to 16 in women aged under-25. This suggests that teenagers today are more likely to report having sex at a younger age than previous generations (Mercer *et al*, 2013). This is relevant as research has suggested that women who become sexually active earlier are more likely to engage in sexual risk-taking, which can lead to pregnancy (Wellings *et al*, 2001; Wellings *et al*, 2013). Indeed it is the youngest teenagers who are most likely to have sex without using any form of contraception (Johnson *et al*, 2001). It has been estimated that nearly one third of young women (29%) aged 16-24 will have their first sexual experience before the age of 16 (Bajos *et al*, 2003a; Wellings *et al*, 2001,). In the US, where sexual behaviour among young people is considered to have similarities with that in many Western European countries, a recent study using nationally representative data revealed that 19% of young women aged 15 had had sex, compared with 32% of those aged 16, 47% for those aged 17, 60% of those aged 18 and 71% of those aged 19. By age 20 around a quarter (26%) of women had not had sex (Finer & Philbin, 2013). This detailed breakdown by age is not published for the Natsal surveys or the *Health Survey for England 2010* (Robinson *et al*, 2011), but the latter of these indicated that one quarter of young women aged 16-24 had not had sexual intercourse. The Natsal-3 survey also revealed that sexual inactivity was most prevalent among 16-19 year olds, with over one third of young women reporting no vaginal sex in the past year (Wellings *et al*, 2013); making the pregnancy rate higher among those who are sexually active.

Teenagers are more likely to have relationships of a shorter duration than older women and have a greater number of sexual partners in the past year. Findings

from Natsal-3 showed that sexually active participants in the youngest cohort (16-24 years) were more likely to report having sexual intercourse with two or more opposite-sex partners and at least one new opposite-sex partner in the past year than women aged over 25 (Mercer *et al*, 2013). Moreover, the proportion of young women aged 16-24 reporting ten or more sexual partners was double that of women aged 65-74 (*ibid*); although the average number of lifetime sexual partners was lowest among 16-24 years olds reflecting a shorter period of sexual activity. While some teenagers experience sex outside of a relationship, many will find themselves in a relationship that only lasts a matter of weeks or months or one that is characterised by 'on-again' and 'off-again' instability (Brown *et al*, 1999). If young people have sexual intercourse in these relationships it can increase exposure to sexual health risks from their partners - who may have other sexual partners in the interim (Kelley *et al*, 2003). Having sexual intercourse with more than one partner in the past year has been associated with unplanned pregnancy (Wellings *et al*, 2013)

In terms of sources of information on sexual health, just over 40% of young people in 2012 (Natsal-3) reported that school lessons were their main source of information, compared with around 30% in 1990 (Natsal-1) (Tanton *et al*, 2015). The Natsal-3 survey also found that one quarter of young women (28%) wanted more information about contraception, and nearly half (47%) wanted to know more about psychosexual matters (*ibid*).

Not all sexual intercourse is voluntary or wanted and sometimes it can take place before a person is 'ready', particularly among young women (Moore & Rosenthal, 2007, see pp. 164-181). Findings from the Natsal-3 survey showed that unwanted pregnancy is more likely to occur among younger people. The study found that 6% of women aged 16-24 reported having sex against their will and 16% reported attempted nonvolitional sex (Macdowall *et al*, 2013). This is a similar proportion to the 1987 American National Survey of Children which found that 7% of 17-23 year old women had experienced sex against their will at least once (Miller *et al*,

1995). This information is now somewhat dated however. A number of sexual behaviour indicators have been found to be associated with experiences of nonvolitional sex including: first sexual intercourse before the age of 16, more lifetime sexual partners, being diagnosed with a sexually transmitted infection and becoming pregnant before the age of 18 (Macdowall *et al*, 2013).

In summary, the evidence suggests that young people today are having sex earlier than their predecessors, and compared with older women, they are also more likely to be in shorter relationships, have a higher frequency of sexual partners in the past year, and more likely to experience unwanted sex. However, it is also important to recognise there are some limitations to the findings reported here, specifically from the Natsal surveys. In particular, the cross-sectional design is less suitable for looking at behaviour change as it is conducted at a single time point and behaviour is influenced by social context. Moreover, the reliance on self-reported data could have resulted in social desirability and recall bias.

2.3 Methods of contraception for young people and their effectiveness

There is an ever-increasing range of methods of contraception available for young people in Britain which are available free of charge on the NHS. The NHS Choices website[5] currently lists 15 different methods of contraception:

[5] http://www.nhs.uk/Conditions/contraception-guide/Pages/contraception.aspx [accessed 2nd May 2016]

Table 1: Available methods of contraception

Method	User-dependent	Long-acting and permanent
Barrier methods	Male condom Female condom Diaphragm Cervical caps Vaginal ring	
Hormonal methods	Combined pill Progestogen-only pill Contraceptive patch	Contraceptive implant Contraceptive injection
Intrauterine methods		Intrauterine device (IUD) Intrauterine system (IUS) (both types of what is commonly referred to as a coil)
Natural family planning	Having sex at a particular time of the month	
Sterilisation		Male or female (both permanent)

Some of these are user-dependent whilst others are long-acting and must be fitted by a specially trained doctor or nurse. Only condoms can protect against the risk of sexually transmitted infections (STIs). The *UK Medical Eligibility Criteria for Contraceptive Use 2009* stated that no method should be recommended in relation to age alone. However, it was noted that women sterilised at a young age are more likely to express regret later on, and that intrauterine methods may be more difficult to insert for young people (FSRH, 2009). Consequently both of these methods are rarely used among women under-20 (Baraitser, 2008).

2.3.1 Contraceptive access and use

Data compiled for England (2014-2015) showed that attendance at sexual and reproductive health services was highest among 18-19 year olds compared with all other age groups, with 21% having at least one contact in the past year. This was 17% for young women aged 16-17 and 5% for young women aged 13-15 (HSCIC, 2015). The Natsal-3 survey, revealed that 44% of young women aged 16 - 24 reported attendance at a sexual health clinic in the past five years (Sonnenberg

et al, 2013). A systematic review of young people's views on contraceptive services in the UK (Baxter *et al*, 2011) identified that the most important concerns were maintaining confidentiality and anonymity. There was also a fear of being treated with hostility and criticism. The review concluded that young people have different preferences concerning access to services, so choice needs to be maintained, and all providers need to work together to achieve a comprehensive local sexual and reproductive health service.

Most young people rely on user-dependent methods of contraception such as male and female condoms and the contraceptive pill. Data from 2014-2015 revealed that 71% of young women aged under-20 who had made contact with sexual and reproductive health services used a user-dependent method of contraception (HSCIC, 2015). Use of the male condom was highest in the youngest teenagers with nearly one quarter (23%) of females aged under-16 relying on this method. Oral contraceptives were then the most common method in young women aged 16-19. Findings published in the ONS *Contraceptive and Sexual Health Report 2008/09*, indicated that young women aged 16–19 were the least likely to be currently using contraception (57%) (ONS, 2009a). However, these figures should be treated with caution as they are based on a small sample and it is unclear what proportion of the young women were sexually active at the time.

Examining trends in use of long-acting reversible contraception (LARC) use shows that this has been increasing among young women. Using data on LARC unit sales (primary and secondary care), Connolly *et al* (2014) reported that between 1998-2011, usage (meaning number units sold) increased six-fold among young women aged under-18 and three-fold among young women aged 18-19. Based on the rapid increase in LARC usage since 2007, the authors suggested that this likely reflected the introduction of guidance for professionals to help young women make an informed choice about LARC methods, additional funding to increase access and growing awareness among young women (*ibid*).

Research funded by Marie Stopes International (UK) suggested that more than half (57%) of young women aged 16-24 presenting for a first or subsequent abortion at one of their clinics were using contraception at the time they became pregnant (Bury *et al*, 2014, 2015). However, most were relying on user-dependent methods. Some studies have highlighted ambivalence among health professionals in terms of recommending long-acting methods (Wellings *et al*, 2007). There is also cautionary evidence which suggests that use of the contraceptive injection (Depo-Provera) use by young women aged under-19 can reduce bone mineral density at a time when bones should be growing (e.g. Lara-Torre *et al*, 2004; Pitts *et al*, 2012).

In a qualitative study exploring the reasons why some young people do not use contraception, Brown and Guthrie (2010) argued that while many young women were aware of the need to use it and the options available to them, many simply did not think about contraception at the time, were under the influence of alcohol or felt pressurised by their male partner not to use a condom. Inconsistent use and method discontinuation can also be a problem, particularly with oral contraceptives. Experiencing side effects (such as weight changes, mood swings and nausea), not being able to establish a pill-taking routine, and not knowing what to do if a pill is missed, have all been associated with poor compliance (Rosenberg *et al*, 1995). Issues with LARC methods have also been documented, with the most common being unpredictable bleeding. In a study of young women's LARC adherence in London, Hoggart *et al* (2013) reported that young women made a considered choice not to use the contraceptive implant and that the experiences of friends were central to their decision-making. Reasons for removal included intolerable side effects, changing relationship status, fear about the effect of hormones on the body and a lack of bodily autonomy. Some young women experienced delays when requesting removal or practitioner resistance which could affect future choices about contraception.

Emergency contraception is an option for young women who have not used contraception or if their chosen method has been used incorrectly or failed. It is available free of charge in the UK from sexual and reproductive health clinics, general practice surgeries, walk-in centres and some pharmacies. There is often low use of emergency contraception by teenagers. The Natsal-1 survey showed that 7% of sexually active young women aged 16-19 had used emergency contraception in the year prior to interview. This was higher than older groups, with use decreasing by age and increasing by number of male sexual partners (Black *et al*, 2006a). In an in-depth study exploring the factors that influence use and non-use of emergency contraception among young women, Free *et al* (2002) reported that young women's evaluations of their own vulnerability to pregnancy following unprotected intercourse, their perceptions of people that use emergency contraception and of what others will think, as well as issues with access and asking for emergency contraception, all contributed to non-use. Williamson *et al* (2009) also reported that young women were less likely to use emergency contraception when unprotected sex had become normative behaviour. In contrast, young women who experienced contraceptive failure or an unexpected sexual event were more likely to identify the risk of pregnancy and use emergency contraception. The study by Bury *et al* (2014) revealed that only 12% of the young women aged 16-24 presenting for an abortion had used emergency contraception. However, this proportion may demonstrate the effectiveness of emergency contraception rather than the young women's behaviour, as emergency contraception may have reduced the need for an abortion.

2.3.2 Effectiveness of contraception

Assessing the effectiveness of contraception is complicated. Even if a sexually active woman is not using any contraception at all, there is still around a 15% chance that she will not conceive after one year (Ellertson & Glasier, 2008). Factors such as frequency of sexual activity, timing of sexual intercourse in

relation to ovulation, fertility and age, all influence a woman's chance of becoming pregnant (Wilcox *et al*, 1995). In addition, not all methods of contraception provide the same level of protection. This will depend on the type of contraception and whether it is used consistently and correctly. For this reason, failure rates are often presented in terms of perfect use and typical use (which includes inconsistent and incorrect use). For some methods, such as the contraceptive implant, the rates are similar as they require little user input once started. Methods such as the contraceptive pill and the condom have higher failure rates as they are vulnerable to inconsistent and incorrect use. In an updated review of contraceptive failure rates, Trussell (2011) used data from population studies and clinical trials to estimate the percentage of women who become pregnant in a year using each method. The results are presented in Table 2 below.

Table 2: Effectiveness of different methods of contraception: 1-year risk of experiencing unintended pregnancy

	Perfect use	**Typical use**
Withdrawal	4%	22%
Male condoms	2%	18%
Combined oral contraceptives (COCs) or "the pill"	0.3%	9%
Progestogen only injectables	0.2%	6%
Implant	0.05%	0.05%
Intrauterine device (IUD): Coil copper containing	0.6%	0.8%
Intrauterine device (IUD) Coil levonorgestrel	0.2%	0.2%

Source: 1-year failure rates Trussell, 2011.

The probability of contraceptive failure is cumulative over time. For example, if a young woman aged 16 had an abortion and used the contraceptive pill (with a typical 9% failure rate) until she was aged 19 then the chance of this method failing during this three-year period would notionally increase to around 25%. However, risk is not linear and it is possible, for instance, that the young woman may become better at using the contraceptive pill with continued use. It will also

will depend on how many pills were missed and when, so a more complex probability model is needed. What this does however highlight is that even those young women who use contraception effectively have a small risk of unplanned pregnancy and this increases substantially if the contraceptive method is used ineffectively over an extended period of time.

In an article exploring the characteristics of sexually active women who have more than one abortion, Stone and Ingham (2011) estimated that 35% would have at least one more unplanned pregnancy within two years if they were using a contraceptive method with a 10% failure rate. This was based on the probability of a sexually active woman conceiving in a given cycle if no contraception was used (fecundability), which for this calculation was Tietze's (1974) estimate of 20%. Fecundability declines with age, so while these estimates relate to women of fertile age it can only be assumed that the probability of pregnancy would be even higher in young women.

2.4 Who becomes pregnant as a teenager?

There has been extensive research into the reasons why teenagers become pregnant and which factors are most likely to predict pregnancy during the teenage years. A European-wide systematic review from the REPROSTAT 2 group explored micro-level factors (these are attributable to individuals and their interactions rather than social structures and processes) associated with teenage pregnancy. Of the 4,444 studies screened, 20 met the inclusion criteria (Imamura *et al*, 2007). Most of these took place in the UK and Nordic countries. Factors found to be associated with teenage pregnancy were categorised into six broad groups: sociodemographic factors, family structure and stability, educational factors, risky health behaviours, sexual health knowledge, attitudes and behaviours, and service accessibility and acceptability. The main findings will be briefly discussed with a particular focus on the UK literature and incorporating more recent evidence (including some international studies from outside Europe)

to provide background knowledge and context for other chapters in the thesis; in particular, the scoping review exploring factors associated with subsequent teenage pregnancy. However, it must be recognised that the large number of factors and their interrelated nature makes this a complex topic.

2.4.1 Socioeconomic

The authors of the REPROSTAT 2 study suggested that there was unequivocal evidence of the association between socioeconomic disadvantage and teenage pregnancy. Five UK studies included in the review found a strong association between area deprivation and teenage pregnancy (Bradshaw *et al*, 2005; Clements *et al*, 1998; Diamond *et al*, 1999; McLeod, 2001; Paton, 2002). For instance, Bradshaw *et al* (2005*)* revealed that approximately three quarters of the geographic variation in teenage conceptions and teenage abortions can be explained by deprivation. It has been identified in other UK studies that young women from more deprived backgrounds are more likely to give birth instead of choosing to have an abortion (Lee *et al*, 2004; Rosato, 1999). Botting *et al* (1998) found that teenagers in social class V (lower income) were around 10 times more likely to become teenage mothers than those in social class I (higher income). Despite the relationship between lower socioeconomic status and teenage pregnancy being well documented, much less is understood about why this is the case. Indeed it is not simply that teenage pregnancy is a consequence of, or results in, poor socioeconomic status; rather there are a range of confounding factors, such as geographic location, community and family norms, educational opportunities and access to services that reinforce unequal outcomes for teenagers (Aria, 2009, see pp.19-38; Brindis, 2006).

Associations in the REPROSTAT 2 study between ethnicity, immigrant status and early physical development with teenage pregnancy were either weak or inconclusive due to the limited number of studies investigating these variables. There is a specific lack of research on ethnic minority populations and teenage

pregnancy in the UK (Higginbottom *et al*, 2006). There was some evidence to suggest higher rates of teenage pregnancy in urban areas in the UK (Clements *et al*, 1998; Hippisley-Cox *et al*, 2000; McLeod, 2001).

2.4.2 Family structure and stability

Using data from the Natsal-2 survey, Wellings *et al* (2001) found that after adjusting for other sociodemographic factors and age at first intercourse, family structure (whether living with both natural parents, one or none until age 16) was not associated with teenage pregnancy before age 18. However, one study from Finland (Vikat *et al*, 2002) and another from Sweden (Holmberg and Berg-Kelly, 2002) found an association between not living with both parents and teenage pregnancy. It has been suggested that one of the reasons for links between family structure and teenage pregnancy may be related to aspects of parent-child communication patterns (Wellings *et al*, 1999) and a reduced ability to monitor behaviour (Meade *et al*, 2008). Father absence has also been linked to early pregnancy in a longitudinal study of young women in the US and New Zealand (Ellis *et al*, 2003).

Other factors related to the family have been found to be important in identifying which teenagers are more likely to become pregnant. Meade *et al* (2008) discussed the effects of 'intergenerational cycles of teenage motherhood' in which daughters of teenage mothers were more likely to follow the same path. Using longitudinal data from a sex education trial, Bonell *et al* (2006) also observed that daughters of teenage mothers were more likely to become pregnant by age 15-16. In a general practice records study, Seamark *et al* (1997) found that pregnant teenagers were more likely to have a mother who was pregnant as a teenager. Daughters of teenage mothers were also more likely to continue with their pregnancy. In the US, findings from a nationally representative sample indicated that daughters of teenage mothers were 66% more likely to become teenage mothers themselves (Meade *et al*, 2008).

There are also studies which have linked early experience of sexual and physical abuse to teenage pregnancy. For example, in a British study, Roberts *et al* (2004) found that experience of childhood sexual abuse before the age 13 was associated with teenage pregnancy, even when other factors were adjusted for. While a meta-analysis of 21 studies on childhood sexual abuse and teenage pregnancy estimated that childhood sexual abuse increased the odds of teenage pregnancy by 2.21-fold (Noll *et al*, 2009).

2.4.3 Educational factors

Teenage pregnancy has been significantly associated with a number of educational factors. Using the Natsal-2 survey findings, Wellings *et al* (2001) reported that leaving education at age 16 increased the likelihood of pregnancy before age 18. Even when other background variables were controlled, education level was independently associated with motherhood before age 18 but not abortion. Attitudes towards school and barriers to school have also been linked with teenage pregnancy. Bonell *et al* (2005) found that those teenagers who reported disliking school were significantly more likely to have a teenage pregnancy. This association remained significant when socioeconomic status, future expectations and other indicators of sexual health knowledge and confidence were controlled. The study also found that a lack of education expectations was associated with teenage pregnancy.

Other studies have reported a significant relationship between educational attainment and teenage pregnancy. Singh *et al* (2001) undertook a review of socioeconomic disadvantage and patterns of sexual behaviour among teenagers in five developed countries (United Kingdom, France, Sweden, Canada and United States). A strong association between educational attainment and childbearing before age 20 was reported. In France and Sweden around 20% of teenagers with low educational attainment had a child, compared with less than 2% of those with the highest educational attainment. In the UK and Canada the proportion of least

educated young women with a child rose to 36% and 46% respectively. In the US, where there were the highest levels of teenage motherhood, 66% of teenagers with the lowest level of schooling had a child before age 20. However, this study provided no indication about whether lower educational attainment predicted teenage motherhood or whether it was the result of it, as the measures related to the time after the young women had given birth rather than assessing whether they had dropped out of school prior to becoming pregnant.

2.4.4 Risky health behaviours and psychosocial factors

The REPROSTAT 2 systematic review only included one eligible study which looked at the association between risky health behaviours and teenage pregnancy. The study found that smoking was linked with pregnancy among young women (Seamark & Gray, 1998). Looking at risk behaviours in other studies reveals that the relationship between alcohol consumption and teenage pregnancy is not fully clear. One study mapped teenage conceptions against alcohol-related hospital admissions (this is typically used as a proxy measure for alcohol misuse) in young people and found similar patterns (Bellis *et al*, 2009). Teenage pregnancy increased from around 28 per 1000 in wards with the lowest alcohol-related admissions for young people aged 15-17, to 49 per 1000 in wards with the highest alcohol-related admissions for young people aged 15-17. Even once deprivation was controlled for, the relationship remained significant. However, these data only focused on young women who had drunk to excess and therefore does not capture the full relationship between alcohol and teenage conceptions. Moreover, ecological analyses, such as this, are unable to establish a causal link.

2.4.5 Sexual health knowledge, attitudes and behaviours

One UK study included in REPROSTAT 2 review found that wanting to become a parent by age 20 was significantly associated with teenage pregnancy (Bonell *et*

al, 2005), whilst Wellings *et al* (2001) reported that early sexual initiation (under-16) increased the likelihood of teenage pregnancy.

Contraception choices have also been linked to teenage pregnancy. Darroch *et al* (2001) (looked at teenage pregnancy in five countries using the same data as Singh *et al*, 2001) and argued that the US had a much higher unintended pregnancy rate among teenagers than the UK, France, Sweden and Canada, and this difference may be in part due to the much higher proportion of young women who were not using contraception or who used methods with higher failure rates. Failure to renew user-dependent methods, such as the oral contraceptive pill, has been linked to unintended teenage pregnancy (Churchill *et al*, 2002). Use of long acting contraception has been found to significantly reduce teenage pregnancy in UK and US studies. Looking at the relationship between LARC usage data from 1998–2011 and teenage conception and abortion rates in England, Connolly *et al* (2014) reported increased use of long acting methods was significantly associated with decreases in the under-20 conception and abortion rates.

2.4.6 Service accessibility and acceptability

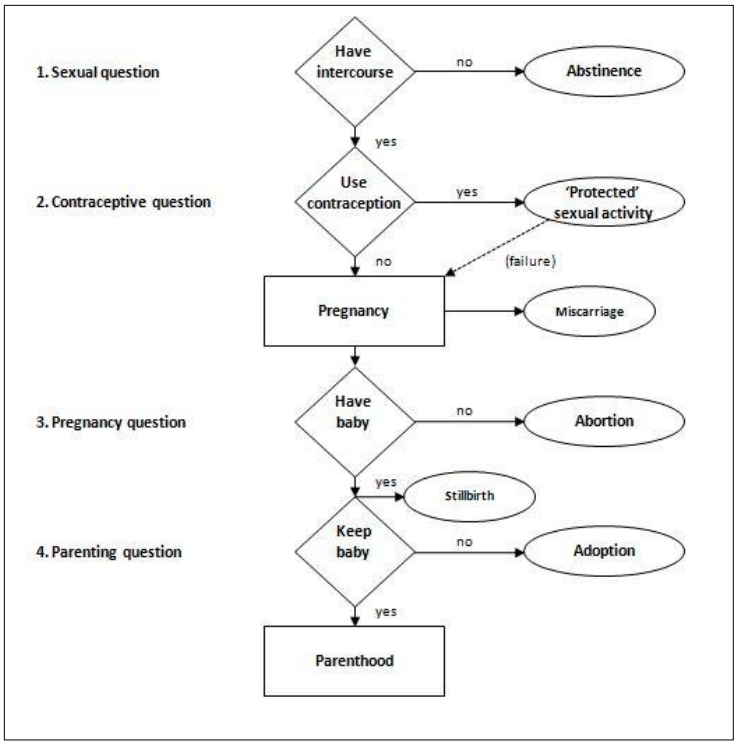
Five UK studies identified in the REPROSTAT 2 review looked at the association between access to services and teenage pregnancy (Diamond *et al*, 1999; McLeod, 2001; Paton, 2002; Hippisley-Cox *et al*, 2000; Churchill *et al*, 2000b). These showed a complex relationship which suggested that simply improving services and access alone may not reduce teenage pregnancies. For example, in the study by Churchill *et al* (2000b) 71% of the young women had discussed contraception with a health professional at least once in the year prior to pregnancy and 51% had been prescribed oral contraception. However, this study was only carried out in one geographic area in the East Midlands which limits its generalisability. The study by Hippisley-Cox *et al* (2000) reported that potential factors that influence young women's attitudes and access to contraceptive services were the age and sex of the GP and the availability of practice nurses.

'Embarrassment' has also been identified as a barrier to young women accessing primary care contraceptive services (Churchill *et al*, 2000a). In a national study by Bradshaw *et al* (2005), there were a number of 'outliers' in the socioeconomic profiles of neighbourhoods which had either higher or lower rates of teenage pregnancy than expected. The authors suggested that this may be the result of differences in local service provision.

2.5 Pregnancy intentions and decision-making

Getting pregnant is not the whole story, most young women will then need to make a decision about whether to continue with the pregnancy or to have an abortion, and if they do give birth, whether they should keep the child or place the child for adoption (as illustrated in Figure 2). However, these decisions will, in part, be influenced by young women's attitudes towards pregnancy and young motherhood. This last section therefore summarises what is known about pregnancy intentions and pregnancy outcome decisions-making in teenagers.

Figure 2: Decision points and teenage pregnancy outcomes



Source: Miller *at al* (2006)

2.5.1 Pregnancy intentions

One way that researchers have sought to understand teenage pregnancy is within the context of pregnancy intentions. However, the concept of pregnancy 'intendedness' is widely used but much contested (Bachrach & Newcomer, 1999; Luker, 1999; Sable, 1999). Part of the problem lies in distinguishing between 'intended' and 'unintended' pregnancies. To help find a way to more accurately conceptualise and measure pregnancy intentions, Barrett *et al* (2004) developed a six-item measure: the London Measure of Unplanned Pregnancy (LMUP). Rather than categorise women dichotomously (intended or unintended), it recognises a range of positions in relation to pregnancy intentions with scores ranging from 0-12, which are then divided into at least three categories: 10-12 (intended), 4-9 (ambivalent); and 0-3 (unintended). This measure has been used in the Natsal-3 survey and Joseph Rowntree Foundation Research on 'planned' teenage pregnancy (Cater & Coleman, 2006).

It is frequently cited that three quarters of teenage pregnancies are unplanned. However, it is difficult to establish where this proportion originated from. Using the LMUP measure, Wellings *et al* (2013) reported that almost half of teenage pregnancies in 16-19 year olds were typically unplanned (45%). This group also had the highest rate of 'ambivalent' pregnancies among all age groups (43%). Only 12% of teenage pregnancies were planned. There was a strong association between pregnancy intention and outcome in the overall sample of women, with those who had unplanned pregnancies more likely to have an abortion and those with planned pregnancies more likely to continue to full-term. However, even when a pregnancy is planned a young woman's circumstances may change so this may become unwanted or a young woman might experience an accidental pregnancy which turns out to be a positive outcome.

In a study looking at motivations behind 'planned' teenage pregnancy among young parents, (Cater & Coleman, 2006) reported that some young women came

from an unsettled background (for example, parental divorce or separation, difficult relationships, experience of violence, frequently moving), which often led to a desire for stability and a considered choice to start a family of their own. Negative experiences in school played a role for some young women, while for others social structures such as limited employment and training opportunities made motherhood a preferred option. Settling down early was also the social norm in certain communities. Sometimes the young women planned their pregnancies for more individual reasons, such as the experience of a miscarriage, feeling like it was the right time in a relationship, fear of not being able to get pregnant, to escape family life, to gain purpose in life, affection for children or to get parenthood over and done with. Cater and Coleman highlighted that there were different types of planning and male partners were not always involved in decisions. They argued that teenagers who plan pregnancies have different support needs to those who have unplanned pregnancies.

The cause of unintended pregnancy is sexual activity along with inconsistent or no contraceptive use, or contraceptive failure (Brown & Eisenberg, 1995, see pp.1-10). However, these will be influenced by the range of background factors and other determinants as previously discussed. Young women who are ambivalent towards pregnancy often have low motivation to avoid becoming pregnant. One study found ambivalence was associated with inconsistent contraception use (Brückner *et al*, 2004). While drawing on findings from two qualitative studies, Hoggart (2006) suggested that some young women were confused about their intentions and the potential consequences of their actions, and their inability to use contraception consistently was not due to a lack of knowledge but rather a lack of concern about avoiding pregnancy. Thus, poor agency and a degree of fatalism appeared to be demonstrated in the young women's accounts. There has also been research associating ambivalence toward pregnancy with mild symptoms of depression before conception (Francis *et al*, 2014).

2.5.2 Pregnancy decision-making

For teenagers who become pregnant their lives can take different trajectories, depending on the outcome. Hoggart (2012) argued that individual decision-making about pregnancy takes place within the context of competing values "about the social undesirability of teenage parenthood, and the moral undesirability of teenage abortion" (p.533). These different value systems, along with notions of risk and responsibility, create a contradictory framework in which young women must choose which outcome is more preferable (Coxon *et al*, 2012). Whilst moral values are important, it has been suggested that the decision about whether to have an abortion or to become a mother is largely a pragmatic one depending on personal circumstances (Lie *et al*, 2008; Hoggart *et al*, 2015). Particularly among younger women, factors such a maturity, education and employment prospects and parental attitudes have been found to be most important when making a decision about pregnancy (Halldén *et al*, 2005; Lie *et al*, 2008).

A number of studies have reported that teenagers from communities with a greater acceptance of early motherhood (typically those which are more socioeconomically deprived) are more likely to opt against having an abortion (Lie *et al*, 2008). The notion of 'responsibility' was also apparent in some studies, with certain young women favouring motherhood as a redemptive action for troublesome pasts or in contrast, to accept the consequences of their actions (Hoggart, 2012). Hoggart also argued that some young women drew on 'notions of readiness' in the context of their future aspirations and what they want to be able to provide for their own child.

A key study looking at decision-making between abortion and motherhood among young women in Britain was carried out by Lee *et al* (2004). This suggested that young women's decisions were largely dependent on socioeconomic circumstances. Those young women who had strong educational and career

aspirations were more likely to make a decisive choice to have an abortion. However, those young women who lacked security and stability in their lives were more likely to opt to become a mother. There were clear notions about the 'best age' at which to have a child with some seeing young motherhood as potentially hindering their future prospects, whereas others had strong views against being an old mother. Given that those young women aged under-18 were more likely to end their pregnancies in abortion than older age groups, the authors suggested that this indicated the role of cultural process on individual choices. Partners were sometimes involved in decision-making, and their reaction (supportive or unsupportive) could sway the young woman's decision. The research also found an association between service provision and abortions, with more abortions found in those areas with a greater number of sexual and reproductive health services, more independent abortion providers and a higher percentage of female GPs.

One important observation in the study by Hoggart (2012) was that young women cannot predict their future feelings, or how they might feel following an abortion or becoming a mother. She noted that some young women might have done things differently with hindsight, feel a sense of ambivalence about their decision or sometimes regret. This could influence future sexual behaviour and pregnancy decision-making. Certainly in terms of subsequent pregnancies, Hoggart discussed the role of shifting values and priorities, and what might have seemed like the right decision the first time a young woman became pregnant may not be the same the second or subsequent time around. In terms of abortion, if a young woman felt some regret or this contrasted with her moral framework, then she may be more likely not to want to have an abortion again. Autonomy of decision-making was also important, and those lacking this may be more likely to have a second pregnancy in response to the abortion rather than the desire to become a mother. In conclusion, she argued that "all participants were, to a greater or lesser extent, not free agents when making these choices. Their decision were being made in particular contexts in which 'significant others', different norms

and values; as well as different socio-economic circumstances helped shape their decision-making. The complexity of this process cannot be overstated" (p.544).

2.6 Summary

This chapter sought to provide an overview of key research on young women's sexual behaviour and factors associated with teenage pregnancy to provide a background for understanding subsequent teenage pregnancy. It looked at the role of sexual development as a part of normative adolescent development, acknowledging the physical, psychological and sociocultural changes taking place, and how young people begin to experiment with a range of sexual behaviours. It also considered the ideologies about childhood, motherhood and abortion which shape public understanding of teenage pregnancy as well as young women's own thoughts and experiences. There have been several important trends identified in regard to young women's sexual behaviour in the UK. Young women today have sex at a younger age than previous generations, and they are also more likely than their older peers to have short-term relationships and a higher frequency of sexual partners. Unwanted sex is also more common in this age group.

User-dependent methods of contraception continue to be the most popular among teenagers. There has been a sharp rise in the proportion of young women using more effective LARC methods over the last decade but there are many barriers to uptake and continuation. Even when contraception is used consistently and correctly there is still a chance a young woman may become pregnant. This risk varies between methods of contraceptive failure and is compounded over time.

There is no straightforward answer as to which teenagers are most likely to get pregnant. Sexual activity and contraceptive use appear to be immediate predictors of pregnancy risk, although the evidence suggests that these behaviours are influenced by a range of other factors; most significantly, poor socioeconomic status, a disrupted family structure and low educational

attainment and engagement. In addition, experience of sexual abuse or adversity in early life, poor sexual health knowledge, attitudes and behaviours, and other risk-taking behaviours have been associated with an increased likelihood of becoming pregnant as a teenager. Many of these factors co-occur making it difficult to understand how they interact and their independent effects. Deprivation and perceived opportunities in life were strongly linked to whether a pregnancy ended in abortion or continued to term. However, there were a number of methodological issues with the literature included in the overview. In particular, the studies varied in quality and the amount of evidence on some factors was limited. The use of different measures also makes comparisons between the studies more challenging.

Whilst recognising the commonalities, there are also differences between those young women who become pregnant and choose motherhood and those who have an abortion. One of the ways to understand this is within the context of pregnancy intentions prior to conception. Some young women will be actively trying to avoid pregnancy and for others it will be planned. There will also be a substantial number of young women in-between who are unsure about pregnancy. Along with prior intentions, it is also important to consider other influences on young women's decisions about whether to continue with a pregnancy. The research explored in this chapter showed that social contexts, interpersonal relationships, different norms and beliefs, and pragmatic considerations all shaped pregnancy decision-making.

In the next chapter, statistical trends in teenage pregnancies and data on subsequent teenage pregnancies in England and Wales will be explored.

Chapter 3: Recent trends in teenage pregnancy and subsequent teenage pregnancy

Establishing the level of subsequent teenage pregnancy in England and Wales is problematic as this information is not routinely captured in national administrative data. This chapter will explore what is currently known about the incidence and patterns of teenagers who have more than one pregnancy, whilst highlighting data limitations. Firstly however, it will look at recent trends in teenage conceptions (when a woman becomes pregnant) and abortions, so that the statistics on subsequent teenage pregnancy can be understood within this broader context.

3.1 Terminology

The term 'teenage pregnancy' has been used in this thesis to refer to conceptions occurring in young women before the age of 20[6]. However, when reporting on teenage pregnancy, the Office of National Statistics (ONS) and Department of Health (DH) usually refer to the under-18 conception rate; that is, conceptions per thousand girls aged 15–17. The word 'conception' is important here, as the age at which a pregnancy occurred will be depend on whether this has been classified by the date it was *conceived* (beginning of a pregnancy) or *completed* (end of pregnancy e.g. birth, abortion). While there may be less of a difference between conception and outcome for young women who have an abortion, the difference for those having a birth is typically nine months. Published statistics on abortions and maternities/births to women 'under-20' can therefore differ depending on which definition has been use. This is discussed in further detail below.

The term 'subsequent teenage pregnancy' refers to having two or more pregnancies before the age of 20. This can include any pregnancy that follows a live birth or stillbirth, abortion or miscarriage. Where the term is preceded by the

[6] In the quantitative findings section the data relates to young women aged under-20 at pregnancy outcome. This resulted from a misunderstanding in the data request to the ONS. This is explained in further detail in Chapter 5.

'rapid' this means a conception occurring within 24 months of the previous pregnancy outcome.

Different methods are used to compare teenage pregnancy rates across populations. In order to help aid understanding of what the different numbers mean, some of the most commonly used statistics and methods are explained in Table 3 below.

Table 3 Key terminology in UK teenage pregnancy statistics

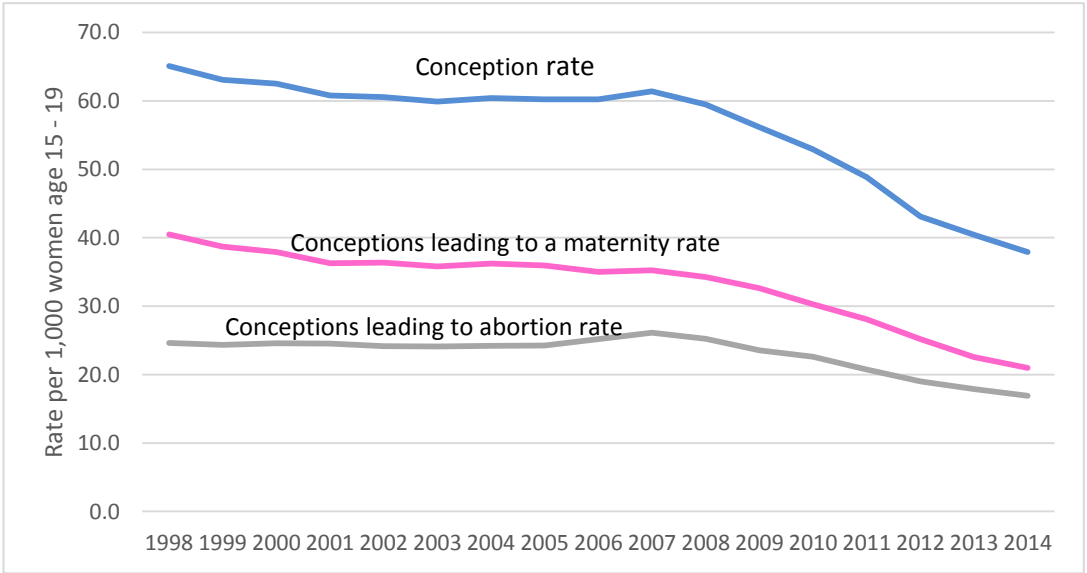
Abortion rate	Number of induced abortions per thousand women usually resident in England and Wales in a specified age group.
Abortion ratio	Number of abortions per 100 pregnancies ending in abortion or birth, expressed as a percentage.
Abortion statistics	Abortion statistics for women usually resident in England and Wales are published by the Department of Health. Under the Abortion Act 1967, as amended by the Human Fertilisation and Embryology Act 1990, it is the legal duty of the doctor responsible for the abortion to notify the Chief Medical Officer (CMO).
Birth statistics	Birth statistics for women usually resident in England and Wales are published by the ONS using data derived from birth registrations collected under the Births and Deaths Registration Act (1953). The data include the number of live births and stillbirths.
Conception rate	Number of conceptions in a given year per thousand women usually resident in England and Wales in a specified age group.
Conception statistics	Concepton statistics for women usually resident in England and Wales are published by the ONS and derived from information on maternities (where one or more live births or stillbirths occur) and abortions. Miscarriages or illegal abortions are not included. As conception is not recorded on birth registration forms, date of conception is estimated by the ONS using standardised formulae.
Fertility rate	The number of live births per thousand women usually resident in England and Wales in a specified age group.
Maternity rate	The number of maternities (pregnancy leading to one or more live births or stillbirths) per thousand women resident in England and Wales in a specified age group.

Some of these national statistics are based on year of conception (as in the ONS conception statistics which report on conceptions leading to a maternity and conceptions leading to abortion by age group), while others are based on year of outcome (as in the Department of Health abortions statistics and the ONS birth statistics). For the purpose of discussing recent trends in teenage pregnancy and outcomes, ONS conception statistics have primarily been used in this chapter.

3.2 Recent trends in teenage pregnancy and outcomes

For almost a decade, the teenage conception rate in England and Wales has been notably declining and is now at an all-time low (see Figure 3). The latest Department of Health statistics on conceptions to young women aged under-20 show that the rate has dropped by 41.8%, from 65.1 per thousand in 1998 (the baseline year for the Labour government's *Teenage Pregnancy* strategy) to 37.9 per thousand in 2014 (ONS, 1999, 2016b). During this time the under-18 conception rate decreased by 51.4%, with a reduction of 51.1% in the under-16 conception rate (*ibid*) (see Appendix 1 for data tables by age).

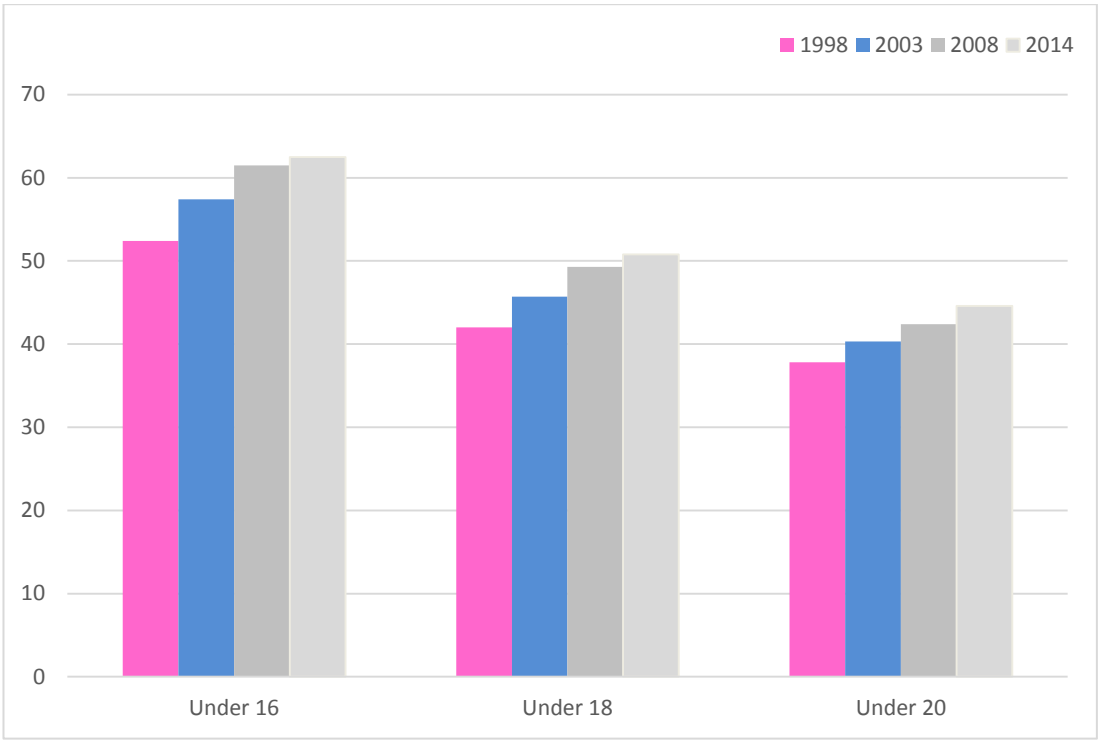
Figure 3: Under-20 teenage conception rate, conceptions leading to a maternity and conceptions leading to abortion rates, 1998 - 2014



Most teenage pregnancies occur in older teenagers which is not surprising given the higher rate of sexual activity in this group (Boonstra *et al*, 2014). Pregnancies to girls under-16 constitute a very small proportion of the overall number of teenage conceptions (4,160 in 2014 or 6.6% of the 63,116 conceptions to teenagers under-20) (see Appendix 1).

In 2014, the rate of conceptions leading to a maternity was 21.0 per thousand women aged 15-19, while the rate of conceptions leading to abortion was 16.9 per thousand women aged 15-19. Figure 3 shows that these decreased by 48.1% and 31.3% respectively from 1998. The higher decline in the rate of conceptions leading to a maternity during this period has narrowed the gap between the maternity rate and the rate of conceptions leading to abortion. However, the fact that both are declining indicates that young women who have unplanned pregnancies are not significantly more likely to have abortions than give birth - which would result in a corresponding increase in the rate of conceptions leading to abortion. This becomes more apparent when looking at the abortion ratio, which shows that over the last 17 years the proportion of conceptions leading to legal abortion for young women under-20 has only increased slightly, from 37.8 in 2008 to 44.6 in 2014 (see Figure 4). However, younger teenagers are more likely to end their pregnancy in abortion. In 2014, 62.5% of conceptions among under-16s led to abortion, this is one-and-a-half times higher than among 18-19 year olds (41.1%) (ONS, 2016b) (see Appendix 1)

Figure 4: Percentage of conceptions leading to legal abortion by age of woman at conception, various years



What statistics on conceptions, maternities or abortions cannot explain are the reasons behind the declines. As conception counts and rates relate to women usually resident in England and Wales only, this rules out fluctuations in maternities and abortions among non-residents. Chapter 2 highlighted that the falling teenage pregnancy rate is unlikely due to young people delaying sex, as the average age of first sexual intercourse has fallen. The Natsal-2 survey revealed that the proportion of teenagers having sex has increased (Wellings & Kane, 1999); although findings from the Natsal-3 survey showed a decline in sexual frequency (measured as vaginal sex in the past 4 weeks) among young people who lived with a partner (Mercer *et al*, 2013). The Natsal-3 survey also showed that around two thirds of 16-19 year olds had a sexual partner in the last year (Wellings *et al*, 2013). Therefore, if teenagers are not having less sex, improved contraceptive use and an increasing reliance on more effective methods may offer a better explanation for the decline (Boonstra *et al*, 2014). Understanding the drivers behind changes in contraceptive behaviour represents a considerable challenge. The analysis undertaken by Boonstra and colleagues looking at 'what

is behind the declines in teen pregnancy rates', suggested that changing childbearing norms, the media, contraceptive availability, and medical recommendations may all play a role. Moreover, improved sex education and better access to community sexual health clinics (HSCIC, 2015; Kirby *et al*, 2005; Wellings *et al*, 2013) have been linked to increased contraceptive use, and it is likely that changing social norms and attitudes around contraception have also contributed.

3.2.1 Geographic variation

The rate of decline in teenage conceptions varies between local authority areas[7]. The ONS provides an interactive mapping tool to compare ranking and trends in the under-18 conception rate for local authority areas in England and Wales from 1998 onwards[8]. In 2014, the highest under-18 conception rates were in Nuneaton and Bedworth (43.0 per thousand women aged 15-17) and Stoke-on-Trent (42.4 per thousand women aged 15-17) both in Staffordshire, and Tamworth (42.0 per thousand women aged 15-17) (ONS, 2016b). While rates have remained persistently high in Nuneaton and Bedworth and Stoke-on-Trent since 1998, the conception rate in Tamworth has fluctuated over time. In contrast, Hart in Hampshire had a rate of 5.2 per thousand women aged 15-17 in 2014, while the national average was 22.9 conceptions per thousand women aged 15-17. When interpreting these figures it should be noted that the number of teenage conceptions in some areas are low, so a slight change can lead to large change in the rate.

As discussed in Chapter 2, research suggests that local area variations are closely associated with socioeconomic factors. The ONS undertook an analysis of the under-18 conception rate (2009-11) by deprivation rank for local authorities

[7] The ONS conception data gives a break down by usual area of residence for women aged under-16 and under-18 but not under-20.
[8] http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dvc130/index.html [accessed 2nd May 2016]

(ONS, 2014c). This showed that higher conception rates were found in the more deprived parts of England and Wales. However, the relationship between deprivation and teenage conceptions is not universal and there is even variation between local areas with high deprivation which suggests other factors, such as access to services and local sexual health policy and initiatives (Bradshaw *et al*, 2005; McCulloch, 2001), may have a role. In a study investigating which local authorities achieved the greatest reductions in teenage conceptions under the Labour government's teenage pregnancy strategy, Wilkinson *et al* (2006) found that the greatest declines (both absolute and relative) were in more deprived and rural areas, those with lower educational attainment, and areas with poor access to services; although these areas also started from a higher base and therefore received more strategy-related funding.

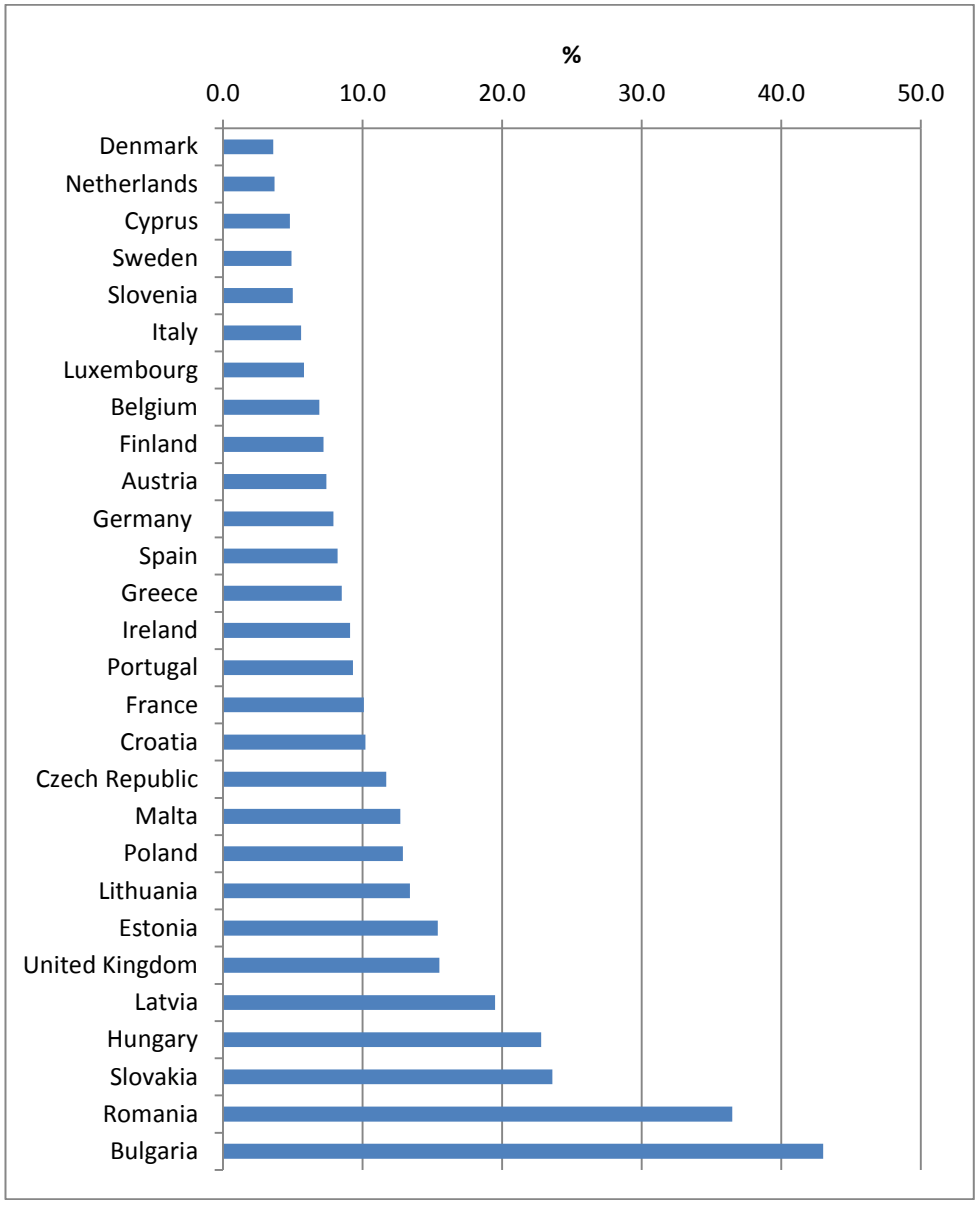
3.2.2 International comparisons

There is a large amount of interest in how teenage pregnancy rates in England and Wales compare with other developed countries in Europe. Higher rates are often cited as a reason for concern (Lawlor & Shaw, 2004), with countries that have low rates providing a reference for reducing teenage pregnancies elsewhere (Sedgh *et al*, 2015). However, international comparisons of conception rates are difficult due to limitations in the availability and accuracy of abortion data and so live birth rates are generally used to compare the prevalence of teenage pregnancy. Data from the European Commission, which looks at live birth rates per 1,000 women aged 15-19 across the 28 European Union Countries (EU28), showed that in 2014 the live birth rate for women aged 15-19 in the UK[9] was one of the highest in Europe at 15.5 births per 1,000 women (see Figure 5), compared with only 3.6 births per 1,000 women aged 15-19 in Denmark and 3.7 births per 1,000 women age 15-19 in the Netherland (ONS, 2016a). However, since 2004 the UK live birth rate has fallen by more than a quarter (26.8%), while the average

[9] Data compiled for England, Wales, Scotland and Northern Ireland

birth rate among EU28 countries only fell by one fifth (18.2%) over the same period (*ibid*).

Figure 5: Live birth rate (per 1,000) to women aged 15-19 in EU countries, 2014



Source: Eurostat data, compiled by the ONS

In the study by Sedgh *et al* (2015), which explored pregnancy rates and outcomes among young women aged 15-19, 21 countries were identified with complete estimates for births and abortions for 2008-2011. This showed that there have been considerable declines in the teenage conception rate for most countries with complete estimates over the past two decades. Among these countries, the highest conception rate was found in the US (57 conceptions per 1,000 women

aged 15-19) and the lowest rate in Switzerland (8 conceptions per 1,000 women aged 15-19). England and Wales had the third highest teenage conception rate among countries with complete teenage pregnancy estimates (47 conceptions per 1,000 women aged 15-19), following New Zealand which had the second highest (51 conceptions per 1,000 women aged 15-19). The median conception rate was 29 conceptions per 1,000 women aged 15-19. In countries with complete abortion records, the highest rates were recorded in England and Wales and Sweden (20 abortions per 1,000 women aged 15-19 respectively). The lowest rate was in Switzerland (5 abortions per 1,000 women aged 15-19). In the US the abortion rate was 15 abortions per 1,000 women aged 15-19. The abortions ratio varied widely across those countries with complete teenage pregnancy estimates, from 69% in Sweden to 17% in Slovakia. In England and Wales the proportion of pregnancies that ended in abortion was average among European countries.

3.3 Subsequent teenage pregnancy

There are no routinely published data on all teenagers who have more than one pregnancy in England and Wales at present. It is widely reported that around one fifth of births to under-18s are to teenagers who are already mothers (DfSE, 2006a; TPIAG, undated). Individual studies in the UK suggest that around 12.5% to 30% of teenage mothers are likely to conceive again before the age of 20 (Birch, 1998; Churchill *et al*, 2000b; Perrow, 2004; Wellings *et al,* 1996).

Under the Population (Statistics) Act 1938, data on the number of previous children were previously collected for married women only, and less than 1% of maternities to under-20s occur within marriage or civil partnership (ONS, 2016b). However, legislative amendments to this Act in May 2012 to collect information on previous children for all women have helped to improve data on subsequent childbearing among teenagers (ONS, 2012a). In 2013, this data showed that 25.0% of young women aged under-20 had previous live-born children (ONS, 2014a) and in 2014 this had marginally decreased to 24.3% (ONS, 2015). It is

worth noting that first child born in a multiple birth does not count towards the previous live born children count, only children from previous maternities.

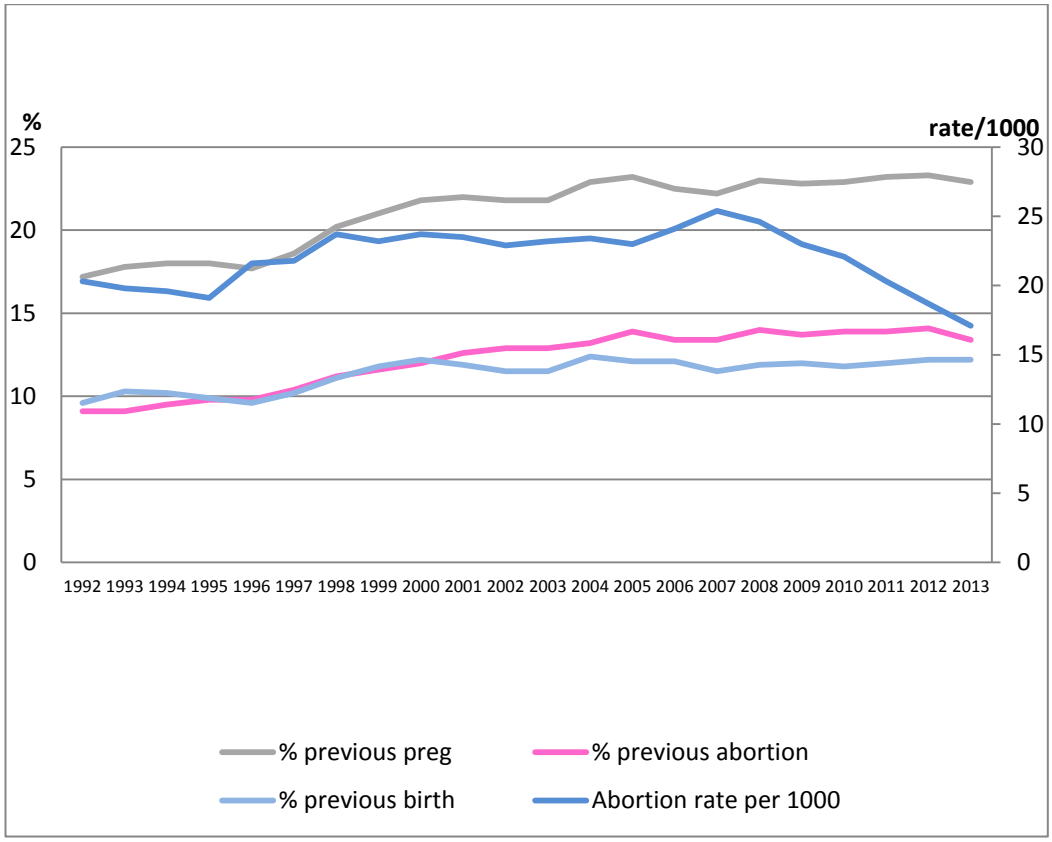
Some information on the number of previous births and previous abortions to young women presenting for a termination of pregnancy can be obtained from national abortion statistics, published by the Department of Health. Under the Abortion Act 1967, as amended by the Human Fertilisation and Embryology Act 1990, it is a legal requirement that the Chief Medical Officer (CMO) is notified of a termination of pregnancy by induced abortion within 14 days of the procedure. The Abortion Notification form (HSA4) is used for this purpose. The form contains a section on 'Parity' to enable information on previous pregnancies (resulting in live births or stillbirths over 24 weeks, abortions, miscarriages or ectopic pregnancies) to be recorded. This information is obtained from patient report and hospital records. While each HSA4 form provides comprehensive information about the abortion it relates to, there are limitations to the data collected on previous pregnancies. Gbolade (2000) argued that this information is dependent both on the accuracy of self-reporting by women and the correct recording by the medical practitioner responsible for completing the HSA4 form. Moreover, if abortions are carried out by different providers then the medical practitioner will not have access to a patient's full medical history to verify this information. This is increasingly the case with many abortions now being carried out by independent clinics under contract to the NHS.

Despite these limitations, the published abortion statistics show that just under half of teenage conceptions to women under-20 in England and Wales end in legally induced abortion; data for 2014 showed that 12.9% of young women aged under-20 who presented for an abortion had previously had an abortion and 11.2% had previously had a birth (DH, 2015a). This was slightly down from the year before, where the figures were 13.4% and 12.2% respectively (DH, 2014a). Collier (2009, 2014) undertook further analysis of the abortion data, which suggested that from 1992 to 2007 the proportion of young women having an

abortion who had had a previous abortion or a previous birth had risen steadily. Over 15 years the increase was 47.3% (from 0.091 to 0.134) for young women who had previously had an abortion and 19.8% (from 0.096 to 0.115) for those who had previously given birth. Since 2007 the proportion of subsequent teenage pregnancies ending in abortion, which followed either a birth or an abortion, has remained relatively stable despite an overall reduction in the number of young women under-20 having an abortion (DH, 2015a). This perhaps reflects that some young women may particularly struggle to control their fertility or are undecided about their future aspirations. Moreover, Hallgarten (2010b) argued that it may also reflect improved access to abortion services and less stigma associated with reporting previous pregnancies, particularly abortions.

Published data do not bring together information on the proportion of young women presenting for an abortion who have had any previous pregnancy, and this cannot be inferred because the abortion and birth categories are not mutually exclusive (i.e. a young woman may have had a previous birth and a previous abortion). To address this issue, McDaid *et al* (2015) (see Appendix 2 for this publication which was produced as part of this thesis) used record level abortion data derived from the HSA4 forms to identify the proportion of young women having an abortion who had been pregnant before. This revealed that in 2013, nearly one quarter (22.9%) of women under-20 who had an abortion had been previously pregnant. Looking at the percentage increase over more than a 20 year period showed that from 1992-2013 the rate rose by 33.1%, from 0.172 to 0.229. Figure 6 shows that most of this increase occurred prior to 2004 and since then the proportion of previous pregnancies among young women under-20 having an abortion has remained relatively stable.

Figure 6: Abortion rate and the percentage of previous pregnancies, previous abortions and previous births to young women under 20 by year, 1992 – 2013



Source: McDaid *et al* (2015): http://dx.doi.org/10.1016/j.jadohealth.2015.06.008 [accessed 29th Dec 2016]. This table is copied under the creative commons licence https://creativecommons.org/licenses/by-nc-nd/4.0/

Similar to teenage pregnancies as a whole, available data suggests geographic variations in subsequent teenage pregnancies. The Department of Health publish data on the proportion of previous abortions to women age under-25 stratified by local authority area in England. In 2014, the proportion of under-25s presenting for an abortion who had had one or more previous abortions ranged from 14.3% on the Isle of Wight to 37.5% in the City of London, with the mean rate at 27.0%[10] for England (DH, 2015a). The London boroughs of Hackney, Hounslow and Waltham Forest all had a proportion near 37% with rounding. Unpublished data on subsequent abortions to women aged under-19, by Clinical Commissioning Group (CCG) of residence in England for 2013, showed that this

[10] In some areas values have been suppressed to protect patient confidentiality (either due to the size of the population at risk or the number of subsequent abortions that occurred). These have been excluded from the range.

ranged from 4.1% in NHS North Derbyshire to over one-third of teenagers (36.2%) in NHS North East Lincolnshire[11] (DH, 2014b).

3.4 Summary

There has been a substantial decline in the rate of teenage pregnancy in England and Wales, which is now at an all-time low. However, not all pregnancies are first-time pregnancies and therefore within the group of pregnant teenagers there is a subgroup who have had more than one pregnancy. Current national administrative data are unable to provide a comprehensive picture of the proportion of teenage pregnancies which are the result of a second or subsequent pregnancy. Understanding more about the incidence and the patterns by pregnancy outcome will help to monitor trends and guide public policies designed to help previously pregnant teenagers better manage their fertility. The next chapter will outline some of the key teenage pregnancy policies introduced in England and Wales and provide an overview of current service provision and pathways.

[11] In some areas values have been suppressed to protect patient confidentiality (either due to the size of the population at risk or the number of subsequent abortions that occurred). These have been excluded from the range.

Chapter 4: The policy and practice context of the research

This chapter presents an overview of teenage pregnancy policy in Britain, with a specific focus on young women who have more than one pregnancy. It begins by outlining the complex attitudes which have influenced the politics of teenage pregnancy and how teenage pregnancy has become conceptualised as a national public health problem. Following on from this, key teenage pregnancy policies from the 1990s onwards, which were briefly discussed in the introduction chapter, are revisited and considered in further detail. As the broader aim of this chapter is to provide context for understanding young women's experiences of subsequent pregnancy, it then looks at how this policy operates in practice, with specific focus on current contraceptive, sexual health and abortion services for young people.

4.1 Teenage pregnancy as a public health concern

Much controversy surrounds the topic of teenage pregnancy in the UK. Current understanding has been shaped by the interests of successive governments and the media (Arai, 2009, pp.39-53). Indeed, rather than women having choice over their own bodies, Lawlor and Shaw (2002) argued that reproduction has increasingly become regulated by social control. Prior to the early 1970s, concern was not so much about the age at which a young woman became pregnant, aside from perhaps among the very young; rather it was her marital and relationship status which was the source of stigma. As Luker put it, "the moral problems posed by sex without marriage and the economic problems posed by babies without fathers" constituted unwed mothers as a group of undesirables (Luker, 1996, p.15). However, since then the rate of marriage has been steadily declining and it has become increasingly common for people to wait until their later years to get married (Wellings & Kane, 1999). Contraceptive developments in the 1970s (including family planning clinics being authorised to provide the contraceptive pill to women free of charge on the NHS irrespective of age or marital status) and the recourse to abortion also meant that sex could be detached from the act of

reproducing (Wellings *et al*, 2006), and sex before marriage became more commonplace (Wellings & Kane, 1999). In her book *Teenage Pregnancy: The Making and Unmaking of a Problem*, Lisa Arai wrote about how this coincided with "a shift in thinking" (Arai, 2009, p.3) whereby fertility among teenagers was seen as disrupting the transition to adulthood. Young motherhood was increasingly conflated with anxieties about lone parenting and welfare dependency (Daguerre, 2006); and so the 'problem' of teenage pregnancy transpired.

4.2 The policy framework in England and Wales

The first central-government strategy acknowledging the sexual health of the British nation was published by the Conservatives in the form of a white paper *Health of the Nation* (SSfH, 1992). In relation to teenage pregnancy, a target was set to halve the rate of under-16 conceptions by 2000; thereby signalling underage pregnancy as an issue of concern. However, very little followed in terms of specific initiatives or funding to achieve this goal (Ingham, 2005), and when the target period ended there had been no significant change in the overall rate of under-16 conceptions.

When New Labour came into power in 1997, health inequalities and the wider social determinants of health became a key focus of their policy agenda. The Social Exclusion Unit (SEU) was established to co-ordinate a cross-departmental approach to tackle exclusion from mainstream society. Teenage parenthood was identified as being both a contributing factor to, and a consequence of, social disadvantage, creating a resurgence of interest in teenage pregnancy and labelling it as a public health problem that must be better controlled (Aria, 2009, see pp.3-17; Hoggart, 2012). Indeed, in a later account of the development of teenage pregnancy policy in England, Ingham (2005) argued that the perceived increase in the number of young single mothers was a key driver behind the need for more organised action on teenage pregnancy. In June 1999, this concern was

translated into a 10-year *Teenage Pregnancy* strategy (SEU, 1999) which aimed to:

- Cut the rate of under-18 conceptions in half by 2010 and establish a downward trend in the under-16 rate.
- Provide support to teenage parents to help increase participation in education, training and employment.

To achieve the strategy's aims, a 30-point action plan was proposed, requiring implementation at both national and local levels, focusing on *better prevention* of teenage pregnancies (e.g. sex and relationship education, information and publicity campaigns, health service standards for contraceptive advice, a national helpline providing advice to teenagers on sex and relationships, targeting of specific groups) and *better support* for young parents (e.g. teenage pregnancy and parenting advice and support, help with claiming job seekers allowance, housing, health care, education and child care).

Hoggart (2012) argued that the strategy had been somewhat vague about whether the problem was teenage pregnancy per se or youthful childbearing, with the emphasis appearing to focus on the latter of these. As the first targets concerned 'teenage conceptions', she suggested that this implied that abortions were also regarded as problematic, without presenting evidence to support this (*ibid*). Preventing or delaying subsequent teenage pregnancy received minor coverage in the strategy, although it was acknowledged that "a significant number of young women conceive more than once in their teens" (SEU, 1999, p.12). Evidence of this was cited from two key data sources: abortion statistics for 1997 were used to show that one in six teenagers who had an abortion had already had an abortion or a live birth or stillbirth, with 2% having both (unpublished), while data from the Natsal-1 highlighted that around one in eight teenage mothers have a second child before the age of 20 (Wellings *et al*, 1996). Reducing subsequent teenage pregnancies thus impacted on both *Teenage*

Pregnancy targets; reducing teenage conceptions inevitably includes those young women who conceive more than once and further pregnancies must be prevented in order to increase participation in education, training and employment. The approaches to reduce subsequent conceptions outlined in the strategy generally focused on teenage mothers, in terms of ensuring that they had access to postpartum contraception. There was less recognition of the needs of young women who chose not to continue with their pregnancy.

The *Teenage Pregnancy* strategy proved popular with local government and health professionals but the values and assumptions underpinning it were subject to criticism by some academic commentators (Arai, 2003; Duncan, 2007). In particular, it was argued that the evidence that informed the strategy was based on old or cross-sectional research rather than more recent longitudinal research, and therefore a clear examination of current social trends or causality was not possible (Allen *et al*, 2007). Moreover, the research used was said to be highly selective and depicted teenage pregnancy as fundamentally a negative outcome (Aria, 2003; Cunnington, 2001; Lawler & Shaw, 2002), when some qualitative research had shown teenage motherhood to be a positive and rewarding experience (McDermott & Graham, 2005; Tabberer, 2000).

The argument that teenage childbearing is more prevalent in Britain, when compared internationally, also requires critical consideration of the appropriateness of such comparisons (Arai, 2003; Lawlor & Shaw, 2004). Lawlor and Shaw (2004) noted that while rates may be high compared to other Western European countries they were still much lower than the US, Canada and New Zealand. Furthermore, comparing fertility fails to take into account differential access to abortion, variation in reproductive behaviours and demographic and socioeconomic differences (Arai, 2003). Indeed, as Arai argued “they assume that the experience of other European nations can be applied to Britain. The reasons for low teenage pregnancy and birth rates in other European nations are varied.

Probably there is no single reason and attempts to apply an overarching explanation will necessarily be limited" (p.98).

Another important issue that caused controversy and political tension was between encouraging sexual openness (meaning young people are more encouraged to talk about sexual health) and protecting young people from the consequences of sex; principally sexually transmitted infections and pregnancy. Unquestionably, protection had a more profound resonance for moral opponents of contraceptive culture, who were concerned with the undesirability of teenagers having sex and threats to traditional family values (Hoggart, 2003; Ingham, 2005). In a later critique of the *Teenage Pregnancy* strategy, Hoggart (2006) noted how government unease about directly challenging this moral agenda, resulted in an unsatisfactory compromise between educating young people about how to engage in 'safe sex' whilst not being seen to encourage 'underage sex' (sex under the age of 16). Without challenging the moral framework and more openly discussing sexual health, Hoggart concluded that high conception rates would continue. Moreover, Hoggart argued that there needed to be a greater focus on overcoming social inequalities and the structural barriers which shape teenage pregnancy. Arai (2003) similarly suggested that the strategy was too dependent on educational/technical approaches instead of focusing on broader approaches to minimise deprivation.

In the period immediately following the implementation of the *Teenage Pregnancy* strategy, the number of teenage conceptions reduced but not fast enough to achieve the target and there were local variations in performance (Wellings *et al*, 2005; Wilkinson *et al,* 2006). Access to contraceptive and abortion services continued to be patchy despite efforts to establish a minimum standard, and in some areas rates of teenage pregnancy actually increased. To help drive forward implementation and address missed opportunities, *Teenage Pregnancy: Accelerating the Strategy to 2010* was published (DfSE, 2006b). This revised strategy introduced the idea of teenage pregnancy 'hotspots' for targeted

intervention where rates remained high, and allocated further funds to promote access to contraception and reduce the number of teenage pregnancies. Increasing concern about preventing subsequent pregnancies was evident. Among teenagers who were already mothers, it noted the importance of supporting them to access contraception which they felt confident to use, referencing the *Sure Start Children's Centres Practice Guidance* (DfSE, 2006c) and the *National Service Framework for Children Young People and Maternity Services Standard* (DH, 2004a) as examples where this had already been promoted. In addition, the revised strategy recommended that Children's Centres, maternity units and GPs made teenagers aware of the risks of becoming pregnant following childbirth. The need to address subsequent teenage abortions was also highlighted, with a commitment to providing access to contraception and counselling for young people who have an abortion, and testing different models of support.

Initially the New Labour government's *Teenage Pregnancy* strategy was considered a failure as the rate of under-18 conceptions had only reduced by 15.2% by 2008 and by 15.6% in the under-16s (see data Appendix 1). A number of damning headlines in the national press followed, with one writer in the Daily Telegraph commenting: "There have been many policy failures by this Government; but few can have been as spectacular as its avowed aim of reducing teenage pregnancies by half"[12] (Daily Telegraph, 7th July 2009). In part this premature assessment may have resulted from confusion over the timescale for achieving the 50% reduction target in under-18 conceptions. *Teenage Pregnancy* was a 10-year strategy, so it could easily be assumed that 2008 was the end point from the 1998 baseline but the actual target was set for 2010. In fact the decline accelerated considerably following 2008, and by 2010 the rate had fallen by 27.2% from the baseline year for under-18s and 24.4% for under-16s. Various explanations have been given for this lagged response. These included:

[12] http://www.telegraph.co.uk/comment/telegraph-view/5771161/Teenage-pregnancies-a-real-sex-scandal.html [accessed 4th May 2016]

programmes of improved sex and relationships education and contraceptive access taking time to gain momentum and demonstrate an effect (ONS, 2013) increased uptake of LARC following the introduction of the NICE clinical guidelines for LARC in 2005 (NICE, 2005) and the impact of an additional Quality and Outcomes Framework (QOF) indicator in the 2009/10 update contract for GP practices to increase awareness of LARC (BMA, NHS Employers, 2009), young women's aspirations shifting towards education (Broecke & Hamed, 2008); and, the perception of stigma linked with teenage childbearing (McDermott *et al*, 2005).

Following the change in government in 2010, teenage pregnancy continued to be a priority with indicators for reducing the under-16 and under-18 conception rates included in the Public Health Outcomes Framework[13] (DH, 2012) but no dedicated policy on teenage pregnancy was put in place in England. In Wales, the Welsh Assembly Government launched the Sexual Health Action Plan 2010–2015 which included reducing teenage conceptions as a priority for action (Welsh Assembly Government, 2010). Meanwhile, austerity measures saw financial support for contraceptive and sexual health services cut (Lucas, 2013) and some of the structures established under the previous New Labour government to address teenage pregnancy being disbanded, with many local areas losing their Teenage Pregnancy Co-ordinator (TPC). A Guardian survey carried out in 2011 of all 150 local authorities in England and those PCTs which employ a TPC, revealed that TPCs had been cut in just over a third of areas[14]. This raised concerns that teenage pregnancy was no longer a high priority. Yet despite this, teenage pregnancies continued to fall and in March 2013, the Department of Health published its *Framework for Sexual Health Improvement in England* (DH, 2013). The main aim of the framework is to develop a more open culture with regard to sexual health and relationships. With regards to teenage pregnancy, further

[13] This set out the government's vision for public health and indicators to help achieve this.
[14] https://www.theguardian.com/society/2011/aug/09/cuts-undo-progress-teenage-pregnancies. [accessed 16th June 2016]

reduction of the under-16 and under-18 conception rates (by providing appropriate information, education and access to contraception) is included as one of the eight objectives. The framework also includes a specific section on reducing subsequent abortion and unwanted pregnancy after childbirth among all women of fertile age (p.35). This contains the following policy statements which relate to subsequent teenage pregnancy:

- Reduce unwanted pregnancies among all women of fertile age (by increasing knowledge and awareness of different methods of contraception, and increasing access to these).
- Ensure all women that request an abortion are offered the opportunity to discuss their options and choices with a trained counsellor. Provision should also be made available for post-abortion counselling.

However, no detailed guidance on local implementation has been provided and no central funding retained to support implementation of the framework. Moreover, the time the strategy was published coincided with changes in the way that sexual health services were commissioned. From April 2013, responsibility for public health was transferred to local authorities, who now lead on commissioning open access sexual health, reproductive health and HIV services. Additional contraceptive services are commissioned by NHS England under the GP contract, while abortion and maternity services are now commissioned by CCGs. Statutory Health and Wellbeing Boards are tasked with reviewing progress against local authority level sexual and reproductive health (SRH) indicators, including the under-18 and under-16 conception rates, the under-18 abortion rate, the percentage of under-18 conceptions leading to abortion, and the under-25 'repeat abortions' rate[15]. This increased fragmentation of contraception, abortion and maternity services could however potentially result in issues for continuity of good quality care. There has also been some criticism of the move

[15] See the Sexual and Reproductive Health Profiles created by Public Health England (PHE) at https://fingertips.phe.org.uk/profile/sexualhealth [accessed 16th June 2016]

to include subsequent abortion as an indicator. Cynthia Dailard (2005) and Susan Cohen (2007) for the Guttmacher Institute argued that policy should focus on controlling fertility and avoiding unintended subsequent pregnancy in the first place rather than targeting a reduction in abortions and subsequent abortions. Indeed, reducing the level of either could be achieved by simply restricting the availability of legal abortion.

The National Institute for Health and Care Excellence (NICE) have published a number of evidence-based guidelines concerning what care should be available on the NHS in England and Wales for teenagers who become pregnant, which acknowledge preventing further pregnancies among pregnant and parenting teenagers. The NICE public health guideline PH3 *Sexually Transmitted Infections and Under-18 Conceptions: Prevention* (NICE, 2007) included the recommendation to provide support to "Vulnerable young women aged under 18 who are pregnant or who are already mothers" (p.11). It was suggested that midwives and health visitors should discuss with them (and their partner where appropriate) how to prevent further unwanted pregnancies, including LARC methods, how to access emergency contraception and their future aspirations. As such the guideline was principally focused on teenagers choosing to continue with their pregnancy. More recently, NICE published a guideline on *Contraceptive Services with a Focus on Young People up to 25* (NICE, 2014a). This includes recommendations on providing contraceptive services after pregnancy or abortion.

4.3 Abortion provision in the UK

Alongside teenage pregnancy, abortion provision has also been the focus of sexual health policy in the UK. The *Abortion Act 1967*, as amended by the Human Fertilisation and Embryology Act 1990, sets out the conditions in which a lawful termination of pregnancy can be performed. Abortion is allowed on the

agreement of two doctors, acting 'in good faith' if one or more of four conditions are met and agreed upon:

a) the continuance of the pregnancy would involve risk to the life of the pregnant woman greater than if the pregnancy were terminated; or
b) the termination is necessary to prevent grave permanent injury to the physical or mental health of the pregnant woman; or
c) the pregnancy has not exceeded its twenty fourth week and that the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman or of any existing children of the family of the pregnant woman; or
d) there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped.

The Act requires the abortion procedure to be carried out at an NHS hospital or a licensed independent provider, (such as BPAS or Marie Stopes UK), under NHS contract or privately. Women can be referred by their local GP, a sexual and reproductive health clinic or self-refer directly to an independent provider. Following this, they receive a consultation where they make the decision about whether to go ahead and terminate the pregnancy, and if so, an appointment for the procedure is made. There are two main methods of terminating a pregnancy: a medical abortion uses two types of medications (the first to end the pregnancy and the second to medically induce a miscarriage) and a surgical abortion using suction to empty the uterus under general anaesthetic. There is some variation in these procedures depending on the number of weeks of gestation. Increasingly the second part of a medical abortion is home-based.

In terms of the current legal framework, young women aged 16-18 can provide legal consent to have an abortion, without involving their parents. Providing abortions to young women aged under-16 without parental consent proves

controversial (Lee, 2004) but it is legal for doctors to provide abortion advice and treatment if certain conditions are met, these are called the Frazer Guidelines. In 2004, the Department of Health also published revised guidelines on providing sexual health services to under-16s (DH, 2004b). One of the conditions of both these guidelines is that the young person must be judged as 'Gillick' competent; meaning that they fully understand what is about to happen. However, a doctor must assess the risks and benefits of involving a parent, and evidence has suggested that practice in regard to parental consent and young people may vary (Lee, 2004).

Considerable variation exists in access to abortion services across NHS health authorities, with different restrictions on methods used, the number of weeks gestation the clinic will perform the procedure up to (with those women in the second trimester – after 12 weeks - having greater difficulties of access), and differences in quality of care and after-care (MedFASH, 2008). This can be especially difficult for young women as they are more likely to delay requests for abortion (Ingham *et al*, 2008). The first *National Strategy for Sexual Health and HIV* (DH, 2001) imposed a duty on NHS trusts to match the level of abortion service with local need. The document cited evidence highlighting the disparity between health authorities in terms of the percentage of abortions funded by the NHS, which were reported to vary between 46% and 96%. It also acknowledged the long waiting period in some areas and proposed that commissioners and service providers develop abortion services in line with Royal College of Obstetricians and Gynaecologists (RCOG) (RCOG, 2004) guidelines, which included a three week waiting target from referral to abortion.

In the current RCOG guidelines (RCOG, 2011), emphasis is placed on the support that women receive when making pregnancy decisions and following the procedure. The guidelines state that women should have access to information and counselling, if required, to help them decide whether to proceed with an abortion. It also specifies that appropriate methods of contraception should be

discussed at the initial consultation, with a future conception plan agreed before discharge. The guidelines note that (pp.15-16):

- There is no medical need for routine follow-up after surgical abortion or after medical abortion if successful abortion has been confirmed at the time of the procedure - although routine follow-up should be available if they wish.
- Abortion services should be able to provide all methods of contraception, including long-acting methods (which women receiving an abortion should be advised of the greater effectiveness of), immediately after abortion.
- The chosen method of contraception should be initiated immediately. Women who choose not to start a contraceptive method immediately should be given information about local contraceptive providers in addition to their GP.
- Abortion services should have an agreed pathway of care to local community sexual health services.

In the White Paper, *Healthy Lives, Healthy People* (DH, 2010), the Department of Health stated their aim to provide a more integrated model of service delivery providing access to confidential sexual health services, encompassing contraception and abortion provision. The subsequent *Framework for Sexual Health Improvement in England* strategy (DH, 2013) reiterates the importance of early access to services, calling for increased awareness of all methods of contraception to enable women to make an informed choice.

4.4 Current sexual health services for young people

This section seeks to provide further context to the research by describing the sexual health services available to young people at the time the field work for this thesis was undertaken. As this chapter has already shown, this is particularly important as the research coincided with changes in government (resulting in

new sexual health policy), cuts to funding for teenage pregnancy prevention, along with the commissioning of comprehensive sexual health services being transferred to local authorities. Service providers and the setting of sexual health services therefore vary between local areas, and care pathways and referrals must be established (Rogstad *et al*, 2002). Key providers of sexual health services for young people include GPs, contraception clinics (also known as a family planning clinic), sexual health or genitourinary medicine (GUM) clinics (in many areas contraception, pregnancy testing and testing and treatment for sexually transmitted infections are provided as part of an integrated service), and pharmacies. Services are also provided in some schools, young people's groups and outreach clinics (Baraister, 2008). Most sexual health and contraceptive services will provide young people's clinics for under-25s and local independent organisations may deliver specialist young people's services. In some areas, such as Hackney, a post-natal and post-termination outreach nurse post has been created to ensure that previously pregnant young people choose a contraceptive method that suits them and feel confident to use this method (Hadley & Evans, 2012). It is argued that a holistic approach is required for young person sexual health services but there is no clear consensus on how this should work and in practice services are often disjointed (Baraister, 2008).

The delivery of abortion services has already been discussed earlier in this chapter. These are provided by NHS hospitals or independent providers either under NHS contract or privately. Maternity services are provided by NHS Trusts and antenatal and postnatal care is available both in hospital and community settings. Some areas have specialist teenage pregnancy nurses, health visitors or midwives but these are not universal and are more common in areas with higher rates of teenage pregnancy. One initiative which specifically targets young mothers is the Family Nurse Partnership (FNP). This was established under New Labour but continues to be delivered at the time of writing. This home visit programme for first-time teenage mothers and their babies is modelled on a US version developed by Professor David Olds at the University of Colorado (Olds,

2006). It involves on-going, structured home visits by a trained nurse from early pregnancy until the child is two years old, with the aim of improving pregnancy outcomes, the health and well-being of vulnerable first-time mothers and their children, child health and development, and parents' economic self-sufficiency. However, a recent randomised control trial looking at the implementation and effectiveness of the FNP in England found this did not reduce levels of subsequent pregnancy by 24 months, nor child emergency attendance or hospital admissions in the first two years from birth. Some improvements in early child development were found (Robling *et al*, 2016). The research was unable to explain why the programme has had less impact in England compared with the US but it was suggested that this may be due to a different model of service delivery in the UK (i.e. the NHS) resulting in a higher level of standard care. Deprivation levels may have also differed from those in the US trials.

A number of charitable organisations also assist in providing services for pregnant and parenting teenagers. However, with the funding cuts for teenage pregnancy and funding for charities in general falling due to economic austerity (Woodhouse, 2015) many of these charities have closed. Other have needed to broaden their focus.

4.5 Summary

In summary, this chapter has highlighted the changing policy context around teenage pregnancy and abortion in England and Wales which has shaped current sexual health, maternity and abortion services for young people. It is clear this is a complex area with different government departments and service providers having responsibility for preventing teenage pregnancy and managing the care of those teenagers who become pregnant. This creates opportunities for young women to fall through the gaps between services. Over the last decade, subsequent teenage pregnancy has made its way onto the policy agenda. In the beginning the emphasis was on young women who have more than one child and

the impact of this on social exclusion, whereas today there is a growing concern about the number of young women presenting for more than one abortion. The fact that young women may have a mixture of these outcomes has received less attention, and the focus on subsequent abortions alone may be misguided as it detracts from the real issue which is helping young women to better manage their fertility in the first place. Moreover, in some circumstances it may actually make sense for a young person to complete their family young rather than have a large space between children. The next chapter will discuss the research methods used in this thesis to work towards a better understanding of young women who have more than one pregnancy.

Chapter 5: Research methods

This chapter describes the methodological approach used in this study. It begins by outlining the decisions made around the aims of the study, alongside the theoretical ideas which informed the mixed methods research design. It then provides a detailed account of the research methods and analysis procedures for both the quantitative and qualitative strands of the study and the scoping review.

5.1 Finding focus

The starting point for this thesis was to learn more about young women aged under-20 who have more than one pregnancy. However, within this topic area there was flexibility to determine the focus of the research and define the research questions. To help gain a better understanding of the existing literature, including gaps and uncertainties, a scoping review was carried out. This looked at factors thought to be associated with subsequent teenage pregnancy and young women's experiences of having more than one pregnancy. Some review articles on interventions to delay or prevent further pregnancies in young women were also considered. The approach used to conduct the scoping review is described later in this chapter and the findings are presented in Chapter 6. In brief, most of the studies looking at risk factors focused on young mothers and originated from the US. There was little convergence in the findings from these studies, suggesting that looking at the associated factors alone may underestimate the complexity of the phenomenon. Very little qualitative research exploring the subjective experiences of young women who have more than one pregnancy has been published.

Statistics on the incidence of subsequent teenage pregnancy in England and Wales were also identified. From this, it quickly became apparent that there were no routinely published administrative data on *all* teenagers who have more than one pregnancy. There were data on certain patterns of subsequent pregnancies,

such as previous pregnancies to young women who have an abortion, but these do not provide the full picture.

The findings from this initial exploratory stage were discussed with sexual health practitioners and two young women who were patient and public involvement representatives for the study. Discussions focused on the fact that while some young women decide to continue with a pregnancy, others choose to end their pregnancy in abortion, and these outcomes might differ with each pregnancy. Moreover, while young women might plan a pregnancy, for others pregnancy is accidental, and there remains a lot of ambivalence about pregnancy intentions. These discussions demonstrated that young women who have more than one pregnancy are not a homogenous group and further clarity about the subset to be included in the research was required.

Another theme arising from discussions with practitioners was the apparent lack of support services for teenagers following an abortion in comparison to those who continue with a pregnancy and keep the baby. This may not be surprising given that until recently, government policy has largely focused on the negative consequences of teenage childbearing (see Chapter 4). It was also suggested that young women who have more than one abortion may face stigma for their actions, tangled up in wider political and moral debates about abortion and the *number* of abortions a woman should have.

Through these observations, three separate but interlinked research ideas emerged. The first was concerned with summarising the findings from the scoping review as this may provide a background for a full systematic review in the future and also evidence gaps in the existing literature. The second focused on the identification of more detailed descriptive data on the incidence and trends in teenagers who have more than one pregnancy. The third focused on developing a more in-depth insight into the lives of young women who have had more than one abortion, the support and advice they received, and what might be done to

better meet their needs. However, further discussions led to the expansion of this last research question to focus on young women who had continued with their pregnancy following an abortion as well. This allowed the study to focus on the 'precipitating event' of having a second or subsequent pregnancy rather than the experience of having more than one abortion in itself. Indeed, while subsequent pregnancies may take different trajectories in terms of outcome, it is likely that there will be commonalities in how these young women manage their sexual relationships and fertility following an abortion.

5.2 Research questions

The three main research questions to be addressed in this thesis were:

- **Question 1: What factors are associated with teenagers who have more than one pregnancy?**
- **Question 2: What are the incidence and associated patterns of subsequent teenage pregnancies in England and Wales and how have these changed?**
- **Question 3: What are young women's individual understandings and lived experiences of becoming pregnant following an abortion?**

5.3 Philosophical and methodological underpinnings

The methodological choices confronting researchers in health research can be daunting. For this study, the data needed to address the research questions indicated that a mixed methods approach was most appropriate. Each research question required a different type of data: one required review and interpretation of numerical data, one required descriptive data in the form of personal narratives, and the scoping review included studies using either or both these types of data. An alternative way of looking at the research questions is that they concerned different levels of analysis: macro level understanding, in terms of large scale patterns and trends, and micro level understanding, in terms of individual interpretations (Brannen, 2005). Collectively, they helped to provide a

more comprehensive understanding of teenagers who have more than one pregnancy than any one of the questions would have alone. There are a multitude of different rationales for combining qualitative and quantitative approaches within a single study and different types of mixed methods designs to choose from (Creswell & Plano Clark, 2011, see pp.53-106). However, before doing so, it is important for researchers to reflect on their own practice and engage with the conceptual issues associated with using two different philosophical traditions in one study.

Qualitative and quantitative research approaches differ in ontology (our view about reality and how we can understand it) and epistemology (our theory about what constitutes valid knowledge or evidence and how we can obtain it). These are considered to be the fundamental beliefs which underlie the research (Guba, 1990, see pp.17-28). Qualitative research is associated with more 'interpretive' and 'constructivist' paradigms based on inter-subjectivity, whilst quantitative research is generally associated with more 'positivist' paradigms based on objectivity. These contrasting ideologies have led some researchers to view qualitative and quantitative approaches as incompatible and therefore should not be mixed within in a single study (Greene, 2007 see pp.17-30; Howe, 1988, 2004). In response to these tensions a range of conceptual approaches have been adopted by researchers to provide a philosophical justification for using mixed methods research. These broadly fall into three approaches: (1) *a-paradigmatic stance* – many researchers working on applied studies in real-world settings consider paradigms to be unimportant (Greene & Hall, 2010); (2) *dialectic stance* – this position assumes that all philosophical stances offer something valuable and that multiple stances may be used in a single study to contribute to a better understanding of the phenomenon being studied (Greene & Caracelli, 1997; Creswell and Plano Clark, 2011, see pp.19-52); and, (3) *single paradigm stance* – some researchers have sought to identify one philosophical stance to provide the foundation for mixed methods research. Examples include pragmatism and transformative approaches (Greene, 2007, see pp.66-87). A pragmatic

perspective draws on 'what works' in relation to a particular research question (Morgan, 2007). A transformative perspective provides a framework for a mixed methods study in which the goal of the research is to "create a more just and democratic society that permeates the entire research process" (Mertens, 2003, p.159).

Early on in the design of this study, Interpretive Phenomenological Analysis (IPA) was identified as the preferred method for the qualitative research strand (see Smith *et al*, 2009), rather than one of the other major qualitative approaches. This was because IPA focuses on how individuals experience and understand events of personal significance, in this case, becoming pregnant following an abortion. However, one of the limitations of phenomenology is that it may not provide sufficient information on the wider context and structural features of lived experience (Langridge & Ahern, 2003) which quantitative methods lend themselves to, so this affords a strong justification for incorporating phenomenological research in a mixed methods design. Indeed, Mayoh and Onwuegbuzie (2013) argued that "phenomenological research methods work extremely well as a component of mixed methods research approaches" (p.2) due to the flexibility and adaptability of its methods. IPA has theoretical origins in phenomenology and hermeneutics, and as such, the approach is guided by a particular epistemology. This influenced how the qualitative research question was framed, which would have been different if another qualitative approach was used. For example, a grounded theory study might have asked 'What characteristics influence subsequent teenage pregnancy?' and sought to develop an explanatory level account. A discourse analysis study might have asked 'How is subsequent teenage pregnancy constructed in the media?' and focused on language as a form of social practice. Thus, the research design for this study was guided by a combination of philosophical and practical issues. It was therefore decided to take a *dialectic* paradigmatic stance whereby multiple philosophical frameworks can be adopted if they relate to different stages of the research design (Creswell & Plano Clark, 2011, see pp. 19-52). This methodological

pluralism provides a flexible framework in which beliefs about different types of knowledge and their individual strengths can be upheld, while recognising that engaging with their differences can bring about new insights and understandings (Greene & Caracelli, 1997).

5.4 A mixed methods design

Mixing methods can allow for a more complete and richer understanding of an issue than a single approach. Important considerations in a mixed methods study are to determine the level of interaction between the quantitative and qualitative research strands, the priority of each strand and its timing (Creswell & Plano Clarke, 2011, see p.53-106). In this study, an embedded design was adopted whereby the qualitative research constituted the substantial component of the study and the quantitative data collection aimed to help illuminate the issue by providing more comprehensive contextual data. This is not to say that one set of data was perceived to be less important than the other. Indeed, from a public policy perspective, information on the prevalence of an issue is needed in order to justify it as a priority (Griffin & Phoenix, 1994).

Following the scoping review, the qualitative and qualitative methods were intended to take place in parallel. However, in practice, unavoidable delays in obtaining the quantitative dataset meant that the qualitative interviews were completed before the quantitative data had been obtained. In practice, this did not significantly impact on the findings as the two strands were designed to complement each other rather than inform each other. A further issue in mixed methods research is the extent to which qualitative and quantitative findings are genuinely integrated (Bryman, 2007). For this study, there was an independent level of interaction (Creswell & Plano Clarke, 2011, see pp.53-106), whereby the findings from the qualitative and quantitative strands were initially kept independent during analysis before being brought together in an overall interpretation at the end of the study. The aim in the interpretation was not to

triangulate the findings, but to draw them together to provide a better understanding of subsequent teenage pregnancy and further refine the methodological conclusions.

5.5 Scoping review methods

Scoping studies are an increasingly common way to map existing literature on a particular topic (Daudt *et al*, 2013). Scoping reviews differ from systematic reviews in that they have broader parameters and do not typically include a quality assessment (Armstrong *et al*, 2001). Given the extent and range of literature on subsequent teenage pregnancy, and that the literature review preceded the formulation of a well-defined research question, a wider scoping review exercise was thought needed for this present study. The design used for this scoping review builds on that outlined by Arksey and O'Malley (2005), and the development recommendations offered by Levac *et al* (2010) and Daudt *et al* (2013). Arksey and O'Malley's framework includes five main stages: (1) identifying the research question; (2) identifying the relevant literature; (3) selecting the literature; (4) charting the data; and (5) collating, summarising and reporting the results. There is a 6th optional stage which involves consultation with stakeholders to review the findings and obtain more references. On the advice of both Levac *et al* and Daudt *et al*, an adjustment to this framework was made to incorporate an assessment of the overall quality of the studies charted, thereby making the results of the scoping study easier to interpret. It was also considered important to assess studies for their social, cultural and methodological relevance to understanding subsequent teenage pregnancy in the UK context.

Moving through the stages was an iterative process, allowing for new citations to be identified and the charting structure to be updated. The remainder of this section will outline what was done to complete each of these stages.

5.5.1 Review focus and identifying the literature

After an initial search of the literature, it was discovered that there was very little literature on teenagers who become pregnant following an abortion. Therefore it was decided it would be useful to chart all studies which focus on factors associated with teenagers who have more than one pregnancy. Indeed, pregnancy outcomes and intentions may themselves be factors which influence subsequent teenage pregnancy and this would enable the findings of the review to be compared and contrasted with those of the present study. A search strategy was devised to identify relevant publications, combining a methodical and citation based approach. Five electronic databases (Medline; CINAHL, Embase, PsychINFO and the Cochrane Library database of systematic reviews) were searched from January 1980 up to June 2014. A range of other online electronic sources (e.g. Google Scholar, NICE) and reference lists of acquired studies were also reviewed for relevant citations. A combination of three search term categories were used: (1) *multiplier* (repeat, second, subsequent, further, multiple); (*2*) *age* (adolescent, teenage, teen, young); and (3) *outcome* (conception, pregnancy, abortion, termination, birth). Truncation was used to include various spellings and word endings.

5.5.2 Study selection

5.5.2.1 Study inclusion criteria

All articles published in English-language, carried out in developed countries, and reporting on factors associated with teenagers who have more than one pregnancy, were included. The decision on study location was made as teenage pregnancy can only be understood in context, as different social and cultural variations influence sexual behaviour. The search strategy included peer reviewed primary research and review articles. Relevant 'grey literature', such as dissertations and policy reports, was also considered but this was limited to the UK to enhance their applicability to health services and public health bodies. The review excluded support-based interventions unless these also reported on

factors associated with teenagers who have more than one pregnancy beyond whether or not the intervention was effective. The reason was that the components, frequency and intensity of support, can vary and therefore it is not a uniform concept. Studies which compared contraceptive practices in teenagers following pregnancy were included only if the study reported on the association between contraceptive behaviour and subsequent teenage pregnancy.

5.5.2.2 Population

Researchers in the field of teenage pregnancy often use different age categories in their sampling, for example under-16 or under-18. Furthermore, some researchers include teenagers alongside adult women in their studies. It was therefore decided to include studies which focused on young women aged under-20 who had had more than one pregnancy or, if the sample included young women over the age of 19, the target age group needed to make up the majority of the sample. It is important to note that when studies were longitudinal rather than retrospective, the age range given was typically age at recruitment, meaning some young women might have been aged 20 or over when they had a subsequent pregnancy. However, these studies were still included.

5.5.2.3 Charting the studies

Titles and abstracts were read to identify relevant articles. Full print articles which met the study selection criteria were then retrieved. These were read, appraised and those that did not meet the study selection criteria on further reading were excluded. Data on the authors, year of publication, study location, study design, study population, sample size, research focus and factors associated or not associated with subsequent teenage pregnancy, were extracted from the remaining papers. Previous reviews have identified that many of the explanatory variables have strong collinearity, meaning that they are usually found to coexist (Rigsby *et al*, 1998). For this reason, charting also included whether the findings were descriptive only or the result of univariate or multivariate analysis.

5.5.2.4 Quality assessment

A quality assessment of studies was included to improve the usefulness of the scoping review. The intention was not to exclude studies on the basis of quality, but to assist with interpreting the evidence. There are a number of checklists and scales available for achieving this; some of these are generic and others are intended to assess specific research designs. Research on risk factors relies heavily on observational studies, but there is no clear consensus about which quality assessment method should be used for this type of study design (Mallen *et al*, 2006; Sanderson *et al,* 2007). After exploring a number of tools, it was decided to use the Mixed Methods Appraisal Tool (MMAT) (Pace *et al*, 2012; Pluye *et al*, 2011). The main reason for this was study design coverage, as the MMAT can be used with various quantitative and qualitative methodologies[16]. Thus this allows just one tool with multiple criteria to be used for appraising different study designs. Selecting multiple tools for different study designs might have provided a more comprehensive evaluation of the quality of each, but this would have also meant diverse issues in terms of validity, reliability, screening and reporting. Time to complete the assessment was also an important consideration. As the intention of a scoping review is to capture the extent of literature on a given topic, it was important to ensure the quality appraisal process was efficient. The MMAT includes two screening questions, followed by four criteria for each of the different qualitative and quantitative designs (1. qualitative, 2. quantitative randomised control trial, 3. quantitative non-randomised and 4. quantitative descriptive) and three criteria for the mixed methods design (see Appendix 6). Each of these criteria is scored using a nominal scale (Yes/No/Can't tell) and an appraisal score is calculated for the study. The appraisal score is then assigned a star rating which corresponds to the number of criteria met - studies which met

[16] Qualitative research, randomised control trials, non-randomised control trials, quantitative descriptive studies and mixed methods study.

all the criteria are given a four star grading (****), while those meeting one or less criteria are given a one star rating (*).

There are some limitations to using the MMAT approach. Indeed the features which make it a suitable choice for this scoping review mean that the tool is less detailed than some others which are available, though it contains similar core components. The MMAT is also still in development and therefore may be subject to further refinement in the future. Lastly, and this is not a limitation of the tool itself but rather of the present review, the MMAT has been designed to be used for independent assessment by at least two reviewers. As this review constitutes part of an independent PhD thesis this was not feasible.

In addition to the above, studies were also assessed for their relevance to the current UK context. Factors considered included whether the follow-up period was sufficient for a subsequent pregnancy to occur (two or more years since the index pregnancy), whether the social and cultural setting and ethnic composition of participants compared with that in the UK, and when the research was conducted. While the review was limited to studies from 1980 onwards, some of these used data collected in the 1970s when marriage was more common among teenagers and before many developed countries began to liberalise their abortion laws. There have also been several major advances in contraception in the past decade. The studies were either assigned an *R* (somewhat relevant) or *RR* (relevant). The reason or reasons why the paper was less relevant have been explained in brackets next to the rating.

5.6 Quantitative research methods

This section outlines the aims and objectives of the quantitative strand of the research. It then discusses the procedures and processes in relation to the data linkage design which was chosen to make better use of routinely collected administrative data on births and abortions. The section concludes with a

discussion of some of the issues which need to be considered when designing data linkage studies.

5.6.1 Research aims and objectives

The quantitative strand of the study aimed to improve understanding of young women under-20 who have more than one pregnancy by creating a unique new dataset, linking administrative data on births and abortions in England and Wales. This would be used to describe the incidence and patterns of pregnancy in such teenagers. The specific research objectives were to identify:

- The overall number and proportion of teenagers having more than pregnancy, by year.
- The number and proportion of teenagers having more than one pregnancy by outcome pattern (birth or abortion), and by year.
- Trends in subsequent teenage pregnancies (overall and by outcome) using time-series data.
- *Interpregnancy* intervals between subsequent pregnancies; that is, the time from when a teenager's first or subsequent pregnancy was resolved (birth or abortion) to the next time they conceive, by year and changes over time.
- Geographic differences in teenagers who have more than one pregnancy and their links to measures of deprivation.

5.6.2 Study Design

A data linkage study is the process of linking together information from two or more sources; in this case, abortion notification records (held by the Department of Health) were linked with birth registration records (collected by the General Register Office (GRO) and processed by the ONS for statistical purposes) for England and Wales. A number of alternative approaches to identify the proportion of teenagers who have more than one pregnancy were considered,

including patient record-based datasets and national Hospital Episode Statistics (HES). However, for various reasons described in Chapter 7, it was decided that data linkage was the preferred approach.

5.6.2.1 About the data

Under the Abortion Statistics Act 1967, as amended by the Human Fertilisation and Embryology Act (1990), the doctor taking responsibility for a termination of pregnancy has a statutory responsibility to complete a HSA4 form and return this to the Chief Medical Officer (CMO) within 14 days of the abortion taking place. The HSA4 form contains patient details, such as patient reference number, date of birth and full postcode, as well as a section on parity, in which information on any previous pregnancies (resulting in live births and stillbirths over 24 weeks, legal abortions, and miscarriages or ectopic pregnancies) are recorded. The Department of Health receives and processes these forms and undertakes statistical analysis. This provides the most complete and accurate data on women who have abortions in England and Wales, which are used to produce official abortion statistics.

In England and Wales, the Births and Deaths Registration Act (1953) legally requires all live births or stillbirths to be registered at a local register office within 42 days of the child being born. Details about the parent's names, surnames, address and dates of birth are captured when registering births. This must be completed by either one or both parents or a representative (as stipulated by the registration guidance) if neither can attend. These records are held by the GRO and used by the ONS to report annually on births in England and Wales. For all births, including stillbirths, a certificate of notification is completed by the doctor or midwife present at the birth, which is registered on the NHS Personal Demographics Services (PDS). This prompts the issuing of a unique lifetime NHS number (mandatory since 1 April 1997). The ONS then links birth registrations to the birth notifications.

After initial discussions with the Department of Health Abortion Statistics Manager, it was decided to approach the ONS to access birth data so that this could be linked with the abortion dataset held by the Department of Health. The Department of Health would then create a new anonymised dataset on teenagers who have more than one pregnancy for analysis in this thesis.

5.6.2.2 Approvals and ethics

Permissions were sought by the postgraduate research student to link the two datasets together. Although the data received by the University of East Anglia would be anonymised by the Department of Health, on the advice of the Chief Medical Officer, ethical approval for this study was sought from an NHS Research Ethics Committee. Approval was received from the West of Scotland Research Ethics Committee 4 (14/WS/1048) on 15th July 2014 (see Appendix 3). In addition, the Chief Medical Officer, approved the use of abortion statistics for research purposes (see Appendix 4), and the ONS Microdata Release Panel, which acts with the authority of the National Statistician, approved the use of birth data held by the ONS (see Appendix 5). It was not possible to obtain individual informed consent as the study involved linking two existing administrative datasets, nor was it considered appropriate or even possible in the context of abortions to contact the young women for their permission.

The data were accessed under a strict regulated framework of disclosure control in order to maintain appropriate use of the data for research and statistical purposes and to protect confidentiality. As part of the agreement with the ONS, the new anonymised dataset was stored securely at the University of East Anglia (UEA) and it was agreed that any results used for this thesis or publications thereafter must be reviewed by the DH and ONS prior to being published. Data suppression must be applied to the findings in line with the Disclosure Control Protocol for Abortion Statistics (DH, 2015b).

5.6.2.3 Data linkage process

Neither the Department of Health abortion statistics nor ONS birth statistics alone provide a complete picture of the proportion of young women who have more than one pregnancy. However, linking these two datasets together would provide individual level information on young women's pregnancy history for those pregnancies ending in either a live birth or stillbirth or an abortion. One of the advantages of this approach is that each pregnancy outcome is recorded as a separate 'event' and consequently this eliminates the need to use less accurate self-reported data. There are various ways that data from two or more datasets can be linked. Exact/deterministic linking can be carried out where there are patient identifiers shared between two datasets, such as date of birth or postcode. However, the match rate is greatly improved by having a unique identifier, such as NHS number or hospital number. A probabilistic or 'fuzzy' matching approach can be used to identify matches where there may be an imputation error for one of the matched variables. However, this also raises the issue of false-matches.

It is a requirement for abortion notification forms to include a patient reference number (this could be the patient's hospital/clinic number) or name. However, the use of name is discouraged and independent abortion clinics are less likely to record NHS number for their patients. Even when this information is available on the abortion notification form, it is not stored electronically by the Department of Health. This is because it is not required to produce annual abortion statistics and the Department of Health has duty to retain the minimum information needed for this purpose. In contrast, the birth data held by the ONS includes mother's name and most records also have NHS number (this information is only used for statistical purposes). Only two identifiers were available on both datasets – the young women's *date of birth* and *full postcode* at pregnancy outcome – and the latter can change over time.

As the data linkage was carried out by the Department of Health Abortions Statistics Manager and Assistant Statistician, this reduced the amount of identifiable data leaving the security of those organisations that already manage this sensitive information. Table 4 below shows the variables released from the ONS to the Department of Health. It also highlights how these were converted into anonymised variables before the new dataset was transferred to the UEA.

Table 4: Data transferred from ONS to DH, then DH to UEA

Variables released from ONS to DH	**Variables released from DH to UEA**
Year (2004– 2013) at pregnancy outcome	Year (2004 – 2013) at pregnancy outcome
Participant date of birth	Participant age, to one decimal point
Outcome for each pregnancy (birth or abortion)	Outcome for each pregnancy (birth or abortion)
Age at outcome (birth or abortion)	Age at outcome (birth or abortion), to one decimal point
Age at conception (ONS calculation)	Age at conception (ONS calculation), to one decimal point
Postcode	Ward code and various measures of deprivation

The data were linked by the Department of Health using an automated algorithm to find exact matches using the *date of birth* of the women and *postcode* at pregnancy outcome. A single variable (MatchingID) was created by concatenating these two fields (see example in Table 5 below).

Table 5: Example of the data linkage process

CaseID	**DOB**	**Postcode**	**Matching ID**
1	01/01/1991	SE1 8UG	20000000103523
2	--/--/----	SE1 8UG	20000000133323
3	01/01/1991		20000000144522
4	02/02/1992	SW1 2NS	20000000100920
5	01/01/1991	SE1 8UG	20000000103523
6	02/02/1992	SW1 2NQ	20000000100890
7	02/02/1992		20000000103985

Where the Matching ID was the same for two or more records, it was assumed that the records related to the same woman. The exception to this was where there was missing data. Matches were only recorded where full Matching IDs could be produced, and where the IDs matched exactly. In the example data in Table 5, only cases 1 and 5 are assumed to be the same woman. The intention was to next undertake manual 'fuzzy' matching, whereby a part date of birth and exact postcode match or part postcode and exact date of birth match would be linked. However, this was not achieved in time for analysis in this thesis.

The new linked dataset was provided to the UEA from the Department of Health in one file. The order and number of pregnancy outcomes per MatchingID was identified by sorting the cases by MatchingID, then by age of conception. Using the LAG function in SPSS (version 23) a formula was run which checked whether each MatchingID was preceded by a different MatchingID (new person) or the same MatchingID (same person). Depending on the number of times the MatchingID preceded the case, indicated the number of previous pregnancies assigned to that person within the dataset. Using the age at outcome to identify the temporal relationship between those pregnancies associated with a MatchingID, the formula was then able to assign a Pregnancy Number (see Table 6 below as an example set of cases).

Table 6: Example of the sorting of data by pregnancy number

MatchingID	Repeat Pregnancy Flag	Pregnancy number	Year of report	Age at conception	Pregnancy outcome
20000000103523	1	1	2006	17.3	Birth
20000000103524	1	1	2007	18.9	Termination
20000000103525	2	1	2005	17.0	Termination
20000000103525	2	2	2005	17.4	Termination
20000000103525	2	3	2005	17.7	Termination
20000000103526	1	1	2005	16.9	Birth
20000000103527	1	1	2007	19.2	Birth
20000000103528	1	1	2007	19.2	Termination
20000000103529	2	1	2003	15.0	Birth
20000000103529	2	2	2005	17.5	Termination

Following this the data were reviewed for completeness and quality. This process is described in Chapter 7.

5.6.2.4 Sample size

The sample for this data linkage study consisted of women aged under-20 at pregnancy outcome who had been pregnant between the years 2004-2013 and had either a live birth or stillbirth (birth registration) or an abortion (abortion notification), in England and Wales. The total number of records in the dataset was 781,495. The number of matched cases was 53,836.

5.6.2.5 Deprivation measures

Postcode information from the new dataset was linked to various deprivation measures by a Geographical Information System (GIS) specialist at the University of East Anglia. Postcode information was received from the Department of Health in a separate file containing a postcode. The Department of Health had a file to link the Case-PostcodeID with the Original-CaseID. The expanded postcode file including deprivation scores was then returned to the Department of Health where the postcode-related data (but not the postcodes) were inserted into the pregnancy outcome file using the Original-CaseID. There were some individuals (2.24% in total) that a deprivation score could not be assigned to, either because postcode was not reported in the postcode column (10,939 abortion records and 39 birth records), or because the postcode was incomplete or incorrect (9,374 abortion records and 3,269 birth records). The deprivation measures assigned included Carstairs and Townsend scores, Index of Multiple Deprivation 2010 and median household income. In addition, a measure of whether the home postcode fell within an urban or rural location, based on eight categories of urban development (Bibby & Brindley, 2013), was also included.

5.6.2.6 Analysis

Data analysis was carried out using SPSS version 23. Descriptive and frequencies were carried out, along with inferential statistics to explore the relationship between deprivation and teenage pregnancy outcome.

5.6.2.7 Issues, requirements and challenges of data linkage

Data linkage can help to make better use of existing data by bringing together information for an individual held in different datasets. However, the process of accessing and matching the data can be complex. Moreover, in terms of linking Department of Health abortion data with ONS birth data, it was recognised that complete linkage would not be achieved. However, it was expected that there would be a sizable match and certainly a better estimate than indicated by routinely published administrative data.

5.6.3 Limitations of linking birth registration with abortion notification data

There were recognised limitations to linking Department of Health abortion data with ONS birth data. Firstly, information on miscarriages was not recorded as an individual event in either dataset (abortion notification forms do collect information on previous miscarriages but there is no detail about when these occurred and the information is likely to be self-reported). Secondly, using postcode as a matching variable would miss cases where an individual had moved address between pregnancies. There was also the chance of false matches, for example, two different records might relate to twins or two young women living at the same postcode and with the same date of birth – although this would be rare.

5.6.3.1 Access issues

A key challenge for this study concerned ownership of the data and the timeframe for accessing the data. The Department of Health Abortion Statistics Manager was initially approached to discuss possible ways to identify young women who have

more than one pregnancy as the main issue with alternative approaches was the accuracy of abortion data. It was agreed that it would be possible to link Department of Health abortion data with ONS birth data but it would be preferable for the Department of Health to undertake the matching so that personal data did not need to be released to the postgraduate research student at the UEA. This meant that the ONS initially had to agree to release the birth data to both the postgraduate research student and to the Department of Health. At this early stage, it was unclear whether ethics approval was needed for anonymised secondary data analysis, and if it was, whether University Research Ethics Committee approval or NHS Research Ethics Committee (REC) approval would be required (as the data were held by a government body, not an NHS organisation). A letter was sent to the Chief Medical Officer (CMO) querying this and once a decision had been made that NHS REC approval was needed, and this had subsequently been obtained, approval to use the data then had to be sought from the CMO (application sent 23rd July 2014) and the ONS Microdata Release Panel (application sent 12th March 2014). Approval from the CMO was received 31st July 2014 but there were long delays in obtaining approval from the ONS Microdata Release Panel for the release of the birth data (not obtained until 27th January 2015). The birth dataset was eventually released by the ONS to Department of Health on 13th May 2015. However, further delays were encountered due to issues opening the data file.

5.6.3.2 Requirement issues and data limitations

In terms of the data requirements there was also some confusion over whether the ONS data request was for young women who conceived aged under-20 or who gave birth aged under-20. The data provided were based on the latter meaning that young women who conceived age under-20 but gave birth aged 20 were excluded from the new dataset. A second request was made to the ONS to rectify this issue but the amended dataset was not received in time to be used for this thesis. Because the data were ordered by year of pregnancy outcome it

meant that pregnancies might fall into a different year than if the data had been ordered by year of conception. This issue was also to be addressed in the amended dataset.

5.6.3.3 Matching issues

The main technical challenge with linking the two datasets was the lack of a unique identifier. Two other identifiers were therefore used as proxies (date of birth and full postcode at pregnancy outcome). In addition to the limitations of using these two variables for matching purposes already outlined, the automated matching process would miss cases where matches should have been made but where date of birth or postcode information was recorded incorrectly or missing. Manual 'fuzzy' matching can improve this, but this was not completed in time to be used in this thesis. Indeed, one of the difficulties with relying on an external organisation to undertake data linkage on a voluntary basis is a lack of control over timescales. The time taken to auto-match the full 10-years of data was 9 months.

5.7 Qualitative research methods

In this section the aims and objectives of the qualitative study are described, along with the research process, from research tools through to recruitment and interviews, and the use of Interpretive Phenomenological Analysis (IPA) to analyse and interpret the data.

5.7.1 Aims of the study

The aims of the qualitative study were to gain a fuller understanding of young women's experiences of becoming pregnant following an abortion, and what might better help them to manage their fertility following an abortion. The specific research objectives were:

- To describe what it is like for young women who become pregnant following an abortion.
- To explore their experiences of services and contraceptive provision.
- To explore their reasons for use and non-use of different methods of contraception.
- To examine the implications for policy makers and sexual health services.

5.7.2 Research methods

In order to address the research aims, a semi-structured interview design was used, guided by the principles of Interpretive Phenomenological Analysis (IPA). IPA is described as "a qualitative research approach committed to the examination of how people make sense of their major life experiences" (Smith *et al*, 2009, p.1).

Telling stories - semi-structured interviews on a sensitive topic

Interviews can provide insight into people's experiences and the meaning that they attribute to them, while allowing for nuance and reflection. This seemed the most appropriate method choice for the qualitative aims and most respectful of the young women's confidentiality and anonymity. Other qualitative methods, such as focus groups and diaries, were not considered appropriate for this study. Having an abortion is a very sensitive topic and young women may not feel comfortable discussing their experiences in front of others. Moreover, the practicalities of bringing together the young women would have been challenging as they were identified at different times and locations. A delay from recruitment to data collection might have led the young women to disengage with the research, especially as it is known that attendance at post-abortion follow-up visits is low (e.g. Grossman *et al*, 2011). Free text diary methods may have been useful if a prospective study design had been chosen, in which the young women were asked to contemporaneously record their thoughts and behaviours following an abortion. While this method is less prone to recall bias, it would not

have been possible to foresee which young women would become subsequently pregnant so a much larger sample would have been needed. The longitudinal element would have also meant a higher dropout rate.

Semi-structured interviews were used to provide a flexible framework in which specific topics could be explored. A set of questions was set out in a topic guide, but the course of the interview was not prescriptive and as interesting areas of inquiry or new issues were raised by the participant these could be followed up (Smith & Osborn, 2008). IPA studies typically describe using semi-structured interviews to collect data although other ways, such as diaries and personal accounts, have been used (Eatough & Smith, 2008). For this study, a chronological approach was taken asking 'what happened next?' to follow the young women's stories from their first sexual experience through to present day. It was necessary to proceed with caution given the topic area and while most of the young women were very open about their experiences, the influence of social stigma was evident, with some young women not disclosing certain information until the very end of the interview.

5.7.2.1 Research tools

The interview schedule was informed by findings from the scoping review, in particular, the World Health Organisation (WHO) publication on 'Asking young people about sexual and reproductive behaviours' (Cleland *et al*, 2001). Prior to seeking ethical approval, the interview schedule was discussed with two young women who had had an abortion to identify the appropriateness of the questions and to ask if any further topics should be included. They were also asked to look at the Participant Information Sheet to check that the wording was acceptable and whether, after reading it, they might consider taking part in the study. A small number of changes to the interview schedule were made following this, mostly to facilitate rapport-building at the beginning of the interview and to open up the

questions further. No changes were made to the Participant Information Sheet (see Appendices 7 and 8 for final versions).

Each interview began with the participant being asked to describe a bit about themselves, such as their age, living circumstances and what they enjoy doing socially. The topic guide then moved on to sources of information on sexual and reproductive health, details of first sexual experience, knowledge of and use of different methods of contraception, the circumstances surrounding each pregnancy, pregnancy-decision making and feelings in respect to this, and experiences of abortion and sexual health services.

5.7.2.2 Sampling

Choice of sample size was informed by both the analytic approach and practical considerations. As a rough guide, Smith *et al* (2009) suggested that the typical number of interviews (not participants) for an IPA doctoral study might be between four and ten, depending on the research question and quality of the data collected. In terms of practical considerations, recruiting participants into a study involving potentially sensitive topics can be challenging. Other researchers who have tried to recruit young women who have undergone abortion (Lee *et al*, 2004; Hoggart *et* al, 2010) have all reported difficulties with recruitment. Based on these considerations, the target sample size was set at 10.

A purposive, criterion sampling approach was used (Teddlie & Yu, 2007) to recruit teenagers who had become pregnant following an abortion and who were willing to tell their stories. To be eligible to take part in an interview, participants had to meet the inclusion/exclusion criteria outlined below:

1. Had experienced a least one abortion and subsequently conceived before the age of 20.
2. Participant was willing and able to give informed consent for participation in the study.

3. Aged 16 - 20 at the time of the interview.

Exclusion criteria:

- Non-English speaker.
- Deemed to lack capacity to participate or ability to consent to participate or deemed unsuitable by health professionals.

5.7.2.3 Recruitment

Recruitment took place from August 2013 - December 2014. Young women accessing one of the five research sites in the East of England, who had experienced a previous pregnancy ending in abortion before the age of 20 were identified by a member of staff through patient records (NHS sites) or case files (non-NHS sites). During their clinic appointment or meeting, potentially eligible participants were approached by a member of staff and asked if they would be happy to talk with a postgraduate research student about taking part in a study on teenage pregnancy. Caution was needed when approaching the young women as often they had a partner, parent or friend accompanying them and it was uncertain whether they knew about the young woman's abortion history. If the potential participant expressed an interest in finding out more about the study, they were either:

- Given a copy of the Participant Information Sheet by the postgraduate research student if present at the recruitment site. Potential participants were then able to discuss the study in more detail with the postgraduate research student. If the potential participant was willing to take part in an interview, a time and location for the interview to take place was agreed.

- Given a copy of the Participant Information Sheet by a member of staff at the recruitment site (Good Clinical Practice (GCP) trained). Potential participants were then able to discuss the study in more detail with the member of staff. If the potential participant was willing to take part in an

interview, she was offered the option to discuss the study further with the postgraduate research student by telephone, who then arranged a time and location for the interview to take place, or agreed with the member of staff a time and location for the interview to take place.

Everyone who took part in the study was given a £10 high street gift voucher as a thank you, plus basic travel expenses.

Under agreement with the NHS ethics committee, the interviews could take place immediately after the young person had agreed to take part in the study, without providing a minimum 24 hour consideration period. A key factor in the ethics committee's decision to allow this was the expert opinion of a consultant in sexual and reproductive health supporting the study. This issue of 'time to consent' has also been previously debated by 24 NHS RECs and they agreed that this must be dealt with on a case by case basis, with factors such as participant group and research circumstances taken into consideration (NHS National Patient Safety Agency, 2013).

All but one interview took place at the recruitment sites, with the other taking place in the participant's own home, and lasted on average 57 minutes. Five interviews took place immediately after the young women were approached and five were arranged for a later date. All interviews were digitally recorded subject to participant consent and notes taken. A reflective journal was completed by the postgraduate research student immediately following each interview. The postgraduate research student had undertaken training in sensitive interviewing and safeguarding. Debriefing and support was available for both the researcher and the research participants.

Recruitment turned out to be quite a difficult task, with significant time being spent at the two hospital research sites. To recruit the 10 participants it took 15 months. One of the main issues was a lack of eligible young women being identified and therefore 3 months after the first interview was completed it was

decided to submit a substantial amendment to the NHS Research Ethics Committee to extend recruitment to also include young women who continued with a pregnancy following a previous abortion.

5.7.2.4 The sample

In total, 17 young women were approached about the study and of these, 12 agreed to take part in an interview. However, two participants stopped answering their mobile phones when trying to schedule the interviews and after three attempts each, these were taken as passive refusals. In the end, 10 young women took part in an interview. The sample included young women aged between 17-20, from different socio-economic backgrounds, and three that were continuing with their current pregnancy and seven who had decided to have an abortion. The group were all White British. Table 7 below presents key characteristics of each participant. Pseudonyms have been used to protect the young women's identities.

Table 7: Key characteristics of the qualitative sample

Name	Age	Previous pregnancy history	Most recent pregnancy	Ethnicity
1. Jessica	18	2 abortions	Abortion	White British
2. Megan	20	1 abortion, 2 births, 4 miscarriages	Abortion	White British
3. Lauren	19	1 abortion, 2 births.	Abortion	White British
4. Hollie	20	1 abortion	Abortion	White British
5. Sophie	18	2 abortions	Pregnant*	White British
6. Sarah	19	1 abortion	Abortion	White British
7. Lucy	18	1 abortion	Pregnant*	White British
8. Hannah	18	1 abortion	Abortion	White British
9. Chloe	17	1 abortion	Pregnant*	White British
10. Emma	20	1 abortions, 2 pregnancies	Abortion	White British

* The young women who were pregnant at the time of interview had chosen to continue with their pregnancy.

5.7.2.5 Interpretive Phenomenological Analysis

The purpose of this study was to focus on the experiences of a small group of young women who had become pregnant following an abortion to find out how they made sense of the decisions, pressures and realities involved. The 'experience' in this context was not just the subsequent pregnancy but the chain of life-world experiences which led to that point. To focus on understanding the lived experience and what it is like from the participant's point of view is to take a phenomenological approach, and this study drew upon one particular branch of phenomenology: Interpretive Phenomenological Analysis (IPA). IPA seeks to offer insight into the meaning experiences hold for an individual and has roots in the philosophical traditions of phenomenology, hermeneutics and idiography. These will be given brief consideration, before outlining the analytical process used in this study.

Phenomenology originated from the work of Edmund Husserl as the philosophical study of being and human experience. Husserl developed a 'phenomenological method' which sought to provide a rich, clear and accurate description of how things appear (Husserl, 1989). He argued that we experience the world with a *natural attitude* and do not question taken-for-granted assumptions. Instead, we need to be more reflective, adopting an attitude similar to the assumptions of scientific enquiry. Developing this work, Heidegger (1962) emphasised the importance of context and argued that interpretation is at the heart of humanity so phenomenology cannot aspire to an objective principle. This means that sense-making is an interpretive endeavour and so is informed by hermeneutics – the theory of interpretation. Participants bring prior understanding, beliefs, personal histories and prejudices which must be integrated into their understanding of a new experience. Thus, IPA is in agreement with the social constructionist's claim that sociocultural and historical processes shape how we understand our experiences, and consequently, the time and place within which we live is fundamental to making sense of people. As the researcher plays an active role in

interpreting participants' accounts, it is argued that the IPA researcher engages in a double interpretive or hermeneutics cycle (Smith & Osborn, 2008). IPA also has idiographic commitments, so is interested in things that are unique to individuals and emphasises the importance of analysing the individual case before comparing across cases (Eatough & Smith, 2008). As such, this participant-centred approach is often used to research sensitive issues (Smith *et al*, 2009).

IPA is still a relatively new qualitative approach and as such there are variations in the way that it has been used and the level of interpretation applied (Larkin *et al*, 2006). IPA that is largely descriptive and not interpretive is said not to represent good IPA (Smith, 2011). One of the main limitations of IPA is the length of time it takes to analyse the data, which requires a significant commitment from the researcher. Furthermore, because the samples are generally very small, it is difficult to say whether the experiences are typical for a broader population. Despite these limitations, the strengths of IPA were considered consistent with the aims of this present study.

IPA has a rigorous set of procedures (familiarisation, summarising, descriptive and interpretive coding, identifying emergent themes, clustering the themes and move to a more abstract level of key 'super-ordinate' themes). The aim is to develop an organised and transparent account of the data that tells participants' stories, focusing in detail on an individual level before cross-case analysis. These stages are not dissimilar to other qualitative approaches, and there can be flexibility in their application (Larkin *et al*, 2006). What does distinguish IPA is its theoretical framework, which seeks not only to represent people's voices but to try make sense of these through interpretation. This dynamic process means that the researcher must reflectively engage with the text in an iterative cycle to consider patterns, connections, or distinctions. The end product is an account of what the researcher considers to be meaningful grounded in the participant's own sense-making.

For this study the process of familiarisation began by reading and re-reading the transcripts. The first time each transcript was read the audio-recording was also listened to. This was to assist with remembering each participant and how they talked about their experiences. Next a short summary of each transcript was produced, including key information from the interview and the young woman's pregnancy history. The full transcripts were then transferred into a table with three columns: the first column was used to draw out themes of interest, the second had the full transcript copied into it and the third was used for descriptive and interpretive coding (see Appendix 9 for an example). The analysis began with the right-hand column coding. Initial noting and descriptive comments included aspects such as what it was like to be the participant, what was important to them and key features of their experience. Alongside this, interpretive coding engaged with the data at a more linguistic and conceptual level, looking for patterns and contradictions, metaphors, imagery and thoughts on what the data might mean.

The next stage of the analysis was to identify emergent themes and note these in the left-hand column of the table (Smith *et al*, 2009, see pp. 79-107). Drawing on the descriptive and interpretive coding, these themes reflected not only the participant's original words but the researcher's interpretation. The themes from each transcript were then transferred into a separate document to look at how they fitted together. These were grouped according to patterns and connections in the data, for example those relating to contraception or those relating to risk behaviours. This helped to provide a structure of the most important aspects of the participant's accounts in relation to the overall research question. The final stage in sorting the data was to cluster the themes and think at a more abstract level for a smaller number of key 'super-ordinate' themes. There were several iterations of reconfiguring and relabelling these super-ordinate themes until the final four were agreed.

The transcripts, coding, themes and interesting aspects of the data were regularly discussed with two qualitative supervisors to check the analysis and make sure

that it made sense, the data were sufficiently interpreted, and inferences were justified. Finally, a narrative account was produced to highlight the significant aspects of participants' stories. Verbatim quotations have been used when presenting the findings to evidence the themes and provide a means of validation of the interpretation (Seamark & Lings, 2004).

5.6.2.6 Research ethics

The qualitative research study was reviewed and approved by the Cambridge South NRES Research Ethics Committee (13/EE/0079) on 3rd May 2013 and the Research and Development Department's for the two NHS hospital research sites. All participants were provided with an information sheet about the study (Appendix 7) and given the opportunity to ask questions prior to providing written consent (Appendix 11). As the interviews focused on a potentially sensitive topic, which might be upsetting or embarrassing for the young women, every attempt was made to approach issues sensitively. The postgraduate research student undertook training in Sensitive Interviewing, and Safeguarding and Protection. It was emphasised to the young women that they did not have to answer a question if they did not want to and that, should they become uncomfortable or upset at any time during the interview, they could pause or stop the interview completely without having to give a reason. A trained health professional was on hand at the research site to talk with the young women if needed (or contactable by telephone in the case of the one interview that was carried out at the young woman's home). The young women were also given an information sheet which signposted to various support organisations (Appendix 12) at the end of the interview. Only one young woman became visibly upset during the interview, and none requested further support following the interview. Some commented how valuable it had been to share their story.

Researcher safety systems were in place to ensure the researcher was protected from situations or events that may be harmful. For the one interview that was

carried out at the young woman's home, UEA lone research policy was adhered to. To ensure researcher well-being, the researcher was assigned a clinical psychologist from the Norwich Medical School to provide debriefing if required.

5.7.2.7 Reflexivity

> "A researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions."
>
> (Malterud, 2001, p. 483-484)

This section will be written as a first person account of how my background and social situatedness likely affected the qualitative research carried out. It is important not only to reflect on how I might have been perceived by the young women but also how my experiences and knowledge will have influenced the data collection and interpretation, other contextual details such as the circumstances of the interview and the relationship between researcher and participant are significant here.

As interviews are a social process, the identity of the interviewer can be problematic in this dynamic, particularly how the person being interviewed perceives them (Abell *et al*, 2006; Mauthner & Doucet, 1998). Johnson and Delamater (1967) suggested that females generally prefer a female interviewer when being interviewed about sexual behaviour. So while my gender perhaps meant the young women felt less inhibited, I was also in my early 30s when the interviews were carried out, notably older than them. I purposively dressed in casual clothing to appear less intimidating and while I was concerned that attitudes differ from generation to generation, I shared some things in common with the young women being interviewed; for example, having an online social life and different relationship experiences. Being a postgraduate research student could have created an educational division, especially as many of the young women did not aspire to go to university. From my own perspective, I was the

first in my family to go to university and this was the outcome of chance rather than choice. As such, I could self-identify with the young women. Moreover, it has been argued that social differences between the researcher and the researched can actually empower participants as they are experts in their own experiences and can reflect on their lives in ways others cannot (Miller & Glassener, 1997).

Not only were aspects of my personal background important but my professional background was too. While I had been involved in carrying out interviews before I had no experience in sexual health or teenage pregnancy. Shaping my fore-understanding of the topic therefore was the widespread view of teenage pregnancy as a negative phenomenon even though I try as a researcher, and more generally in my day-to-day life, to be a non-judgemental person. Moreover, what the young women said at times was quite shocking and sometimes it was difficult to know how to react. Language was also an important issue and I found myself trying to make sure that the young women felt comfortable enough to use their own language rather than leading them with my own.

The interviews were one-off events, and as such, there was only a short period of time to build trust and rapport. This often developed throughout the interview, resulting in richer accounts and sometimes contradictions. However, the stories the young women told may have been different at another time or if a second interview had been carried out, as they may deepen or possibly change how they reflect on an experience. Indeed the interviews were carried out at different stages in the young women's subsequent pregnancies rather than a set time point; for example, some were waiting to have a subsequent abortion, others had already had a subsequent abortion, and some were continuing with their pregnancy. This too likely influenced the reflective process.

Another issue with discussing sensitive topics such as abortion is that participants may feel they need to be 'morally adequate', meaning that they might choose not to disclose certain behaviours which could be perceived as wrong or illegal.

However, it can be difficult to separate individual behaviour from perceived social norms. To minimise this, I tried to remain neutral and reiterated that the interview was a non-judgement setting. There were still however times were sensitive information was not revealed until the interview was winding up.

Like with other stages of IPA, it is important to consider the researcher's role as narrator and critically examine their role in the stories told. Elliot suggests that 'there is now awareness that the process of research itself does not simply produce descriptions of reality but should also be understood in some senses to construct reality' (2005, p. 154). It can be difficult to write about a social group which you do not belong to, and some may question a researcher's authority to speak on the behalf of others. Indeed, the meaning systems of teenagers can be very different to adults (Miller & Glassner, 1997) so it is important to be cautious when interpreting adolescent cultures and assuming to have understanding. To avoid misrepresentation, clarification on any terms or points in the interviews which had not been understood was sought. A summarising technique was often used to check understanding with the participants.

Reflexivity therefore helps to evoke an interpretivist ontology in which meaning is fluid and co-constructed in the moment as it is lived. Indeed, Heidegger (1962) argued that we experience new things as already interpreted; that is, we do it within the constraints of our own perspective. Only by making ourselves and others aware of this subjectivity and the researcher's integral role can the credibility and usefulness of qualitative research be truly realised.

5.7.2.8 Credibility, reliability and transferability

The assessment of credibility and validity in qualitative studies is important given the subjective nature of data interpretation, but this also means that both can be difficult to demonstrate. Drawing upon other research, Sanders (2003) proposed a range of methods to increase the credibility and reliability of phenomenological research outlined in Table 8 below.

Table 8: Methods for increasing credibility and reliability of phenomenological research (Sanders, 2003)

Strategy for improved credibility	Strategies for improved reliability
• Making clear subjective judgements and presuppositions • Ensuring prolonged engagement with the data • Gaining participant verification of the data • Using verbatim extracts and involving other peers in the analysis	• Having a clear decision trail • Disclosing personal orientation and context • Iteration between data and interpretation • Grounding interpretation in verbatim quotations • Ensuring technical accuracy in recording and transcribing

In terms of using systematic data analysis, the documented guidelines for data collection and analysis outlined in IPA literature (Smith & Osborn 2008) and previously in this chapter, allowed for a degree of transparency in this process. Furthermore, two supervisors read through the transcripts and commented on the analysis at each stage. However, some interpretive elements of qualitative analysis can be difficult to fully document (Elliott, 2005, see pp.36-59). For example, the abstraction from emergent themes to super-orientate themes. Using a neutral approach (being non-judgement and encouraging the interviewee to do most of the talking) in the interviews also helped to limit interviewer bias, and all descriptive and interpretive findings were supported by the extensive use of verbatim quotes. It would have been useful to go back to the young women in order to verify their accounts. However, given confidentiality was of upmost importance in this study, sending the young women copies of their transcript could have significantly increased the chances of inadvertent breaches of confidentiality. Additionally, the aim was to keep personal information to a minimum given the nature of the research topic and to help gain the trust of study participants, so therefore this was not possible.

There are limits to the empirical generalisability of qualitative research, as it is carried out on small, situational samples. Rather qualitative researchers often talk about the transferability of qualitative research to other contexts or settings.

Smith and Osborn (2008) argued that IPA has 'theoretical generalisability', meaning that the reader should be provided with sufficient information on the sample characteristics, field work and analysis procedures to enable them to evaluate for themselves the extent to which this can be generalised to other contexts. Situating the findings in relation to existing literature also demonstrates generalisability.

5.7.3 Summary

This chapter has detailed the development of the research questions, the philosophical basis of the study and provided a justification for using a mixed-methods design. Detailed accounts were then provided on the scoping review of factors associated with subsequent teenage pregnancy, the quantitative research strand, involving a data linkage study of abortion notification and birth registration data, and the qualitative component, using semi-structured interviews and the principles of IPA to understand young women's experiences of becoming pregnant following a previous abortion and how they make sense of them.

Copies of the participant documentation, data collection tools, and examples of analysis have been included in Appendices 7 – 12.

Chapter 6: Young women who have more than one pregnancy – a review of the literature

This chapter considers what the existing literature reveals about young women who become pregnant more than once. As a subsequent pregnancy can follow a pregnancy that ends in miscarriage, abortion, a live birth or stillbirth, the available literature in this area is heterogeneous and some is limited by the fact that few studies specifically focus on *young* women, for example that which focuses on women having more than one abortion. For this reason the chapter has been divided into four sections:

- **Section 6.1 Existing reviews**: summarises findings from five review articles on factors associated with subsequent teenage pregnancy to inform this present scoping review.
- **Section 6.2 Scoping review of factors associated with subsequent teenage pregnancy**: describes the findings from the main scoping review which looked at individual studies exploring factors associated with subsequent teenage pregnancy.
- **Section 6.3 Experiences of subsequent teenage pregnancy:** considers a comparatively smaller number of qualitative studies which seek to understand the lives of teenagers who have more than one pregnancy. These draw on the narratives of young women and examine the meanings they ascribe to their own experiences.
- **Section 6.4**: **Prevention of subsequent teenage pregnancy**: four review articles on interventions designed to reduce subsequent teenage pregnancies are discussed.

By synthesising current literature and identifying its limitations, this chapter aims to provide further rationale for the research describe in this thesis and help place the findings within a broader context to demonstrate what new conclusions might be drawn.

6.1 Existing reviews

Before starting this scoping review of primary research, a search was carried out to identify existing review studies which explore factors associated with subsequent pregnancy among teenagers. Four review articles published in peer reviewed journals were identified, along with one UK thesis (Table 9). The earliest review was carried out in 1990 and the most recent in 2010. The reviews included 52 primary studies overall, with the number of studies in each ranging from 5-28. The majority of included studies focused on subsequent pregnancy among teenage mothers. The findings in three reviews have been presented by the authors according to Bronfenbrenner's 'Social Ecological Model' (1979). This groups predictors according to individual, couple, family, community and social risk factors. Two of the reviews included risk factors for subsequent teenage pregnancy as part of a wider focus. Meade & Ickovics' (2005) review explored sexual risk among pregnant and mothering teenagers, while Rowlands' review (2010) provided an analysis of secondary prevention initiatives. Furthermore, the reviews by Nelson (1990) and Rowlands (2010) were narrative and did not provide detail of methodological approaches.

Table 9: Review articles on factors associated with subsequent teenage pregnancy

Author	**Year**	**Teenage group**	**No studies**
Nelson	1990	Teenage mothers	8 studies
Rigsby *et al*	1998	Teenage mothers	20 Studies
Meade & Ickovics	2005	Pregnant teenagers intending on keeping their baby and/or mothering teenagers	28 studies
Tomlinson*	2008	Teenage mothers	17 studies
Rowlands	2010	Pregnant (unspecified) and mothering teenagers	21 studies

* UK thesis

There is a summary of the studies included in the five reviews in Appendix 13. There is variation in the primary studies which they identified, suggesting different inclusion criteria and breadth of literature searches. This also reflects the different years in which the reviews were published.

The reviews identified a number of factors influencing subsequent teenage pregnancy. Nelson (1990) identified eight studies on subsequent pregnancy among teenage mothers. Four main factors were found to be associated with subsequent pregnancy in these studies: low educational achievement, being married, poor parental relationship and inconsistent contraceptive practices. However, Nelson highlighted a number of methodological issues with the data and concluded that research on subsequent pregnancy among teenage mothers was still in its infancy. She suggested that more longitudinal studies with larger subgroups of first-time pregnant teenagers were needed. Nearly a decade later, Rigsby *et al* (1998) published a review of journal articles between 1966-1997 exploring the factors that help to predict rapid subsequent pregnancies among teenage mothers; that is, a second pregnancy within 24 months of the outcome of the first. Data were extracted from 20 studies which met the inclusion criteria. Thus, the range of primary studies included was much broader than that previously identified by Nelson, perhaps reflecting growing research interest on the topic. Significant predictors included: lower socioeconomic status, younger age at first birth, lower educational achievement, marriage, desired first pregnancy, and use of a contraceptive method other than Norplant (contraceptive implant). However, Rigsby *et al* argued that there was little consensus on the factors which best predicted subsequent teenage pregnancy or how they interact.

Meade and Ickovics (2005) focused their review more broadly on sexual risk (STIs, subsequent pregnancy and contraceptive use) among pregnant and mothering teenagers. In doing so, they acknowledged that subsequent pregnancy is the biological outcome of unprotected sex. The review included 28 studies exploring:

(1) subsequent pregnancy among teenage mothers; (2) subsequent pregnancy among those using hormonal contraception, and; (3) teenagers who have more than one birth. Estimates of subsequent pregnancy in these studies ranged from 12%-44% for teenage mothers who became pregnant within 12 months of giving birth and 28%-63% at 18 months. The four studies on teenagers who had more than one birth reported that 20%-37% had done so within 24 months. The authors argued that many of the "behaviours that lead to teenage pregnancy also place young women at risk of STDs and repeat pregnancy" (p.661). Several factors were reported to be associated with having more than one pregnancy, including: low educational attainment, dropping out of school or being expelled, more frequent sexual intercourse, inconsistent contraceptive use, not having a contraceptive implant postpartum, miscarriage prior to motherhood, positive childbearing attitudes, long-term relationship with partner and risk behaviours such as substance use and fighting with others. While there was inconsistent evidence on the effects of age and subsequent pregnancy, having more than one birth was found to be associated with younger age at first conception for African America and Hispanic teenagers. Interpreting these findings, the authors suggested that pregnant and parenting teenagers were a heterogeneous group and interventions designed to help prevent subsequent pregnancy may need to target particular subgroups. They concluded that pregnancy may provide "a critical 'window of opportunity' for behaviour change" (p.676).

Tomlinson's (2010) review focused specifically on subsequent pregnancy among teenage mothers and identified prior poor obstetric outcome, maternal age, school attendance, marriage or being in a stable relationship and using short-term contraception as significant predictors. However, similar to Meade and Ickovic's review, the findings regarding age were conflicting. Indeed, the issue of early age at first pregnancy can be problematic. It is logical that longer exposure to the possibility of pregnancy should increase risk. However, it is also difficult to interpret as there needs to be sufficient time for the young people to have more than one pregnancy. Finally, Rowlands (2010) undertook a narrative review

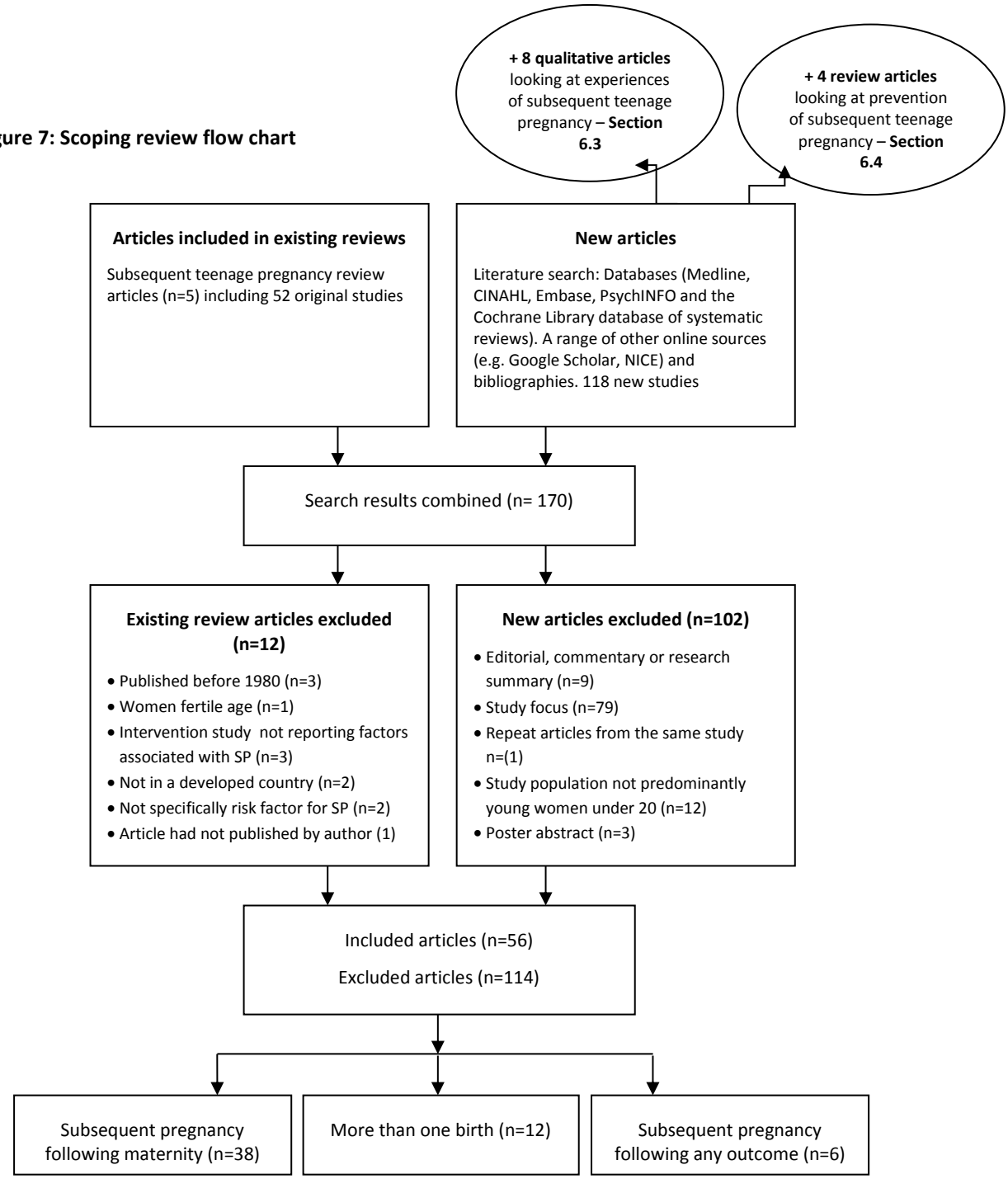
focusing predominantly on social rather than psychological factors that might predict subsequent pregnancy. This showed positive associations with earlier age at first pregnancy, having a planned first pregnancy, choice of user dependent contraception, marriage, having an older partner, intimate partner violence, poor mother-daughter relationship, lack of family support, dropping out of school prior to or after the index pregnancy, lower educational aspirations and lower socioeconomic status. However, Rowlands argued that many of the factors associated with subsequent pregnancies were similar to those linked to first pregnancies, making it difficult to predict which teenagers will become pregnant again.

Across all these reviews, there were methodological challenges with the studies included, with a high degree of collinearity between variables (that is, they are highly correlated with each other), not exploring the independent effects of variables, population studies versus those with relatively small sample sizes, different follow-up periods, and homogeneous populations. Moreover, some studies focused on first-time teenage mothers, while others included teenagers with previous pregnancies ending in abortion, miscarriage, live birth or stillbirth. This makes interpreting the findings challenging.

6.2 Scoping review of factors associated with subsequent teenage pregnancy

This scoping review identified a further 118 studies along with the 52 identified in previous reviews (total n=170). These were assessed for eligibility against the inclusion/exclusion criteria, by reviewing the full-text articles. A further 12 articles were retrieved which related to either young women's experiences of subsequent teenage pregnancy (n=8) or were review articles looking at prevention of subsequent teenage pregnancy (n=4). These are discussed later in the chapter (*Sections 6.3 and 6.4* respectively).

Figure 7: Scoping review flow chart



Fifty-six articles met the scoping review inclusion criteria (see Chapter 5*, Section 5.6.2.1*) reporting on factors associated with subsequent teenage pregnancy, including 40 included in previous reviews and 16 new articles. Appendix 14 contains a bibliography of excluded studies.

6.2.1 Study characteristics

The main characteristics of the included studies are summarised in Table 10. Of the 56 studies which met the inclusion criteria for this scoping review, 50 focused on subsequent pregnancy in pregnant (continuing with pregnancy) and parenting teenagers, the remaining six explored subsequent pregnancy in teenagers either following any pregnancy outcome (live birth or stillbirth, miscarriage or abortion) (four studies) or live birth or stillbirth or abortion only (two studies). No studies were identified that explored factors associated with subsequent pregnancy following an abortion. Those articles which focused on pregnant and parenting teenagers either investigated any subsequent pregnancy outcome following a birth (36 studies) or specifically looked at factors associated with having more than one birth (8 studies). When examined further, only 21 of these studies recruited first-time teenage mothers (nulliparas), though this did not necessarily mean this was the young women's first pregnancy (nulligravida). Many of these studies included participants who had been pregnant previously, ending in either miscarriage or abortion, or this information was not reported. The remaining 29 studies focusing on pregnant and parenting young women potentially included teenagers who had previously experienced another pregnancy with any outcome prior to the index pregnancy at recruitment. Again, this information was not always clearly reported.

All but three of the studies were conducted in the US. The remaining three were carried out in Sweden (Falk *et al*, 2006), Australia (Lewis *et al*, 2010a) and the UK (Crawford *et al*, 2013). The majority were quantitative studies, with just one qualitative study included in the review. Sample sizes ranged from 29 to 3,412 young women. Of the quantitative studies, 13 were of a retrospective design, 22 longitudinal/prospective design, seven randomised control trials[17] (RCT), eight involved the secondary analysis of population-based surveys or administrative datasets (four cross-sectional, four longitudinal) and the remaining five were

[17] Including one feasibility RCT (Schreiber *et al*, 2010)

secondary analysis of other datasets (one cross-sectional, three longitudinal). The RCT designs typically looked at the effects of long-acting methods of contraception on subsequent pregnancy. Some studies were also nested studies within intervention studies looking to prevent or delay subsequent pregnancy. Recruitment of participants within these studies therefore often took place within the context of a study intervention or a specific programme aimed at supporting pregnant and parenting teenagers. Age and ethnicity also varied between the studies. Just under half of the studies included ethnically homogenous populations. This meant that they were all similar in some way, for example, all or nearly all the participants were Black. The study follow-up periods also differed, from 10 months to over three years. As one might expect a woman's chances of becoming pregnant increase with exposure to risk of pregnancy and therefore a short follow-up period may omit some teenagers who become pregnant again. Consequently, when evaluating the data, it is important to be aware of the methodological differences between the studies.

Table 10: General characteristics of the 56 individual studies included in the scoping review of factors associated with subsequent teenage pregnancy

	Number (%) of studies
Study design	
Longitudinal	22 (40%)
Retrospective	13 (22%)
RCT	7 (14%)
Secondary (population-based survey)	8 (14%)
Secondary (other)	5 (8%)
Qualitative	1 (2%)
Context	
Intervention	18 (32%)
Observational	38 (68%)
Population	
First-time mothers/ continuing pregnancy	21 (36%)
Any teenage mother/ continuing pregnancy	28 (50%)
Unwed teenage mothers	1 (2%)
Any outcome first pregnancy	6 (12%)
Sample size (recruitment)	
29-99	8 (14%)
100-199	13 (23%)
200-299	14 (25%)
300-399	7 (12%)
400-499	1 (3%)
500+	13 (23%)
Age (upper limit) at end of follow-up	
17	1 (2%)
18	8 (14%)
19	24 (43%)
20	8 (14%)
21 and over	15 (27%)
Ethnic distribution	
Ethnically diverse	27 (48%)
Mostly Black	22 (39%)
Mostly White	1 (2%)
Mostly Hispanic	2 (4%)
Unspecified	4 (7%)
Follow-up period (months)	
12 or less	9 (16%)
18	6 (11%)
24	28 (50%)
36 and over	9 (16%)
Other Variable (before set age, 1 qualitative study)	4 (7%)

6.2.2 Data extraction

For the purpose of reporting, the studies have been grouped by index pregnancy and outcome pattern: studies which focused on (1) any subsequent pregnancy among pregnant and parenting teenagers; (2) teenagers who have more than one birth; and (3) studies which looked at subsequent pregnancy following any previous pregnancy outcome. Each study has been summarised including details of the study authors, country of origin, design, sample characteristics, primary aim, findings and quality assessment score. This information is presented in Appendix 15. Appendix 16 includes descriptive tables on factors associated with subsequent teenage pregnancy. These have been grouped into main themes and the form of statistical analysis described (descriptive (D), univariate (UV) and multivariate/multivariable (MV)). The following criteria were applied when including factors found to be associated with, or not associated with, subsequent teenage pregnancy.

- Where statistical analysis had been undertaken, the calculated *P* value for significant effect was at least p=<0.05.
- If the paper reported on multiple time points, the factors associated at 24 months or closest to this were included in the tables.
- Where a study was found to be significantly associated in the univariate analysis but not the multivariate analysis (or vice versa) both have been included.

Drawing on the approach used by Rigsby *et al* (1998), factors supported by a minimum of two multivariate analyses and rejected by no more than one or vice versa, have been highlighted in bold. This aims to make it easier to evaluate the evidence along with the scores for quality and relevance to the UK context included in the Tables 1-3 in Appendix 16. It can be seen that there is considerable variability in the relationship between these factors and teenagers who have more than one pregnancy. Few factors were universally supported, and extreme

caution should be taken using findings from studies which have not been replicated.

6.2.3 Rates of subsequent pregnancy

Rates of subsequent pregnancy were documented in some of the studies as shown in the summary table in Appendix 15. Among teenage mothers, 17 studies documented rates of subsequent pregnancy within 12 months. These showed that 9%-28% (mean=17%) of young women had a subsequent pregnancy in this time period. Five studies also reported rates of subsequent pregnancy within 24 months. These ranged from 28%-61% (mean=40%). Among those studies exploring teenagers who have more than one birth, five reported on the percentage of young women who had a further birth within 24 months[18]. This ranged from 16%-27% (mean=18%). Rates of subsequent pregnancy following any previous pregnancy outcome within 12 months were reported in three studies and ranged from 15%-44% (mean=26%). Four studies reported rates within 24 months. These ranged from 30% to 48% (mean=30%).

6.3 Scoping review findings

In this section those characteristics which have been found to be associated with, and those not associated with, subsequent pregnancy are discussed. They have been categorised into 10 overarching themes: (1) sociodemographic factors; (2) sexual and reproductive behaviour, (3) obstetric variables; (4) psychosocial factors; (5) education and employment; (6) relationships; (7) family characteristics; (8) friends; (9) maternal experience; and (10) contraception. Due to the vast number of risk factors which have been investigated, those which have only been looked at in a single study have generally been excluded from the discussion.

[18] One study reported rate of subsequent pregnancy separately for the intervention and control arms of the study. Data from the control arm has been used in this instance.

6.3.1 Sociodemographic factors

Many investigators have looked at the influence of sociodemographic variables in young women on subsequent pregnancy, such a race and ethnicity, age at first pregnancy and socioeconomic status. However, it is important to acknowledge that there are conceptual problems associated with some of these variables, and some findings may be less relevant to the UK context. For example, race and ethnicity are often used interchangeably, but while the former is biological the latter is cultural. There are also marked differences in the racial and ethnic makeup of the US compared with the UK. In terms of age at first conception, this will impact on the time a young woman is at risk of subsequent pregnancy before the age of 20; although this will be less relevant in studies which follow young women for a set time period, such as 24 months. Notwithstanding, it is interesting that the findings in relation to each of these characteristics were different across the three pregnancy outcome patterns included in the literature.

Race and ethnicity

Two common factors investigated for their association with subsequent pregnancies among teenagers are race and ethnicity. This is likely because the majority of studies originated from the US where issues of race and ethnicity are typically the focus of teenage pregnancy research (Bonell, 2004). Race and/or ethnicity were examined in 18 studies which looked at any subsequent pregnancy in adolescent mothers; however, the results were inconsistent. Five studies reported a significant positive association; two used multivariate analysis (Lewis et *al,* 2010, Stevens-Simon *et al*, 1997) and two used univariate analysis (Gray, 2006; Pfitzner *et al*, 2003). The remaining study reported that 'minority race and ethnicity' was one of the potential predictor variables which the presence of nine or more was positively associated with subsequent pregnancy in the first year following birth (Stevens-Simon *et al*, 2001). However, these studies looked at different populations. For example, Pfitzner *et al* (2003) revealed that subsequent pregnancies were more common among Hispanic teenagers than non-Hispanic,

White or other teenagers, while in Lewis *et al*'s (2010a) study, Indigenous Australian teenagers were more likely than non-Indigenous Australian teenagers to have a rapid subsequent pregnancy.

Twelve studies found no association between subsequent pregnancy and race and/or ethnicity (Covington *et al,* 1991; Cox *et al*, 2012; Davis, 2002; Ford, 1983; Gillmore *et al,* 1997; Katz *et al,* 2011; Matsuhasi *et al*, 1989; Maynard & Rangarajan, 1994; Polit & Kahn, 1986; Raneri & Weimann, 2007, Stevens-Simon *et al*, 1996; Waggoner *et al*, 2012). The majority of these had ethnically diverse samples, although four drew on homogeneous populations made up of either all or more than three quarters Black or other ethnic minority individuals (Katz *et al,* 2011; Maynard & Rangarajan, 1994; Polit & Kahn, 1986; Waggoner *et al,* 2012). Two studies did not report the ethnic and racial group breakdown of participants (Falk *et al*, 2006; Ford, 1983).

In contrast, studies which looked at the association between minority race and/or ethnicity and subsequent pregnancy that resulted in birth more consistently found a positive association (Kalmuss & Namerow, 1994; Manlove, 2000; Mott, 1986; Sangalang *et al*, 2006). Only one found no association, this was by Manlove *et al* (2000), and reported that when controlling for other factors, African American teenagers were more likely to have a second birth than White teenagers; however this was not significant. In a second model, restricted to teenagers who were at the equivalent of 12th grade (i.e. 17 -18 years), African America teenagers were significantly more at risk of a second birth. In a study by Salihu *et al* (2011) looking at trends in teenage births that were subsequent births, Black teenagers were 60% more likely to have a subsequent pregnancy than White teenagers in 2000. However, this trend had reversed by 2007, with White teenagers having a 5% more chance of experiencing a subsequent pregnancy than their Black counterparts. However, only 14% of the sample was White, and as the young women were taking part in an intervention aimed at reducing first-time and subsequent pregnancies, this might have had more of an effect on certain

subgroups. Only a small number of studies looked at subsequent pregnancy following any previous pregnancy outcome and these reported mixed findings.

These findings are very difficult to interpret as they may imply that being a member of a minority racial and/or ethnic group is relevant to fertility patterns or, and perhaps more likely, there are other interrelated factors that influence the sexual and reproductive behaviour of these young women. In some contexts, for instance, racial or ethnic minority group is considered to be strongly associated with socioeconomic disadvantage (Singh *et al*, 2001) and some authors did not control for the potential confounding effects of socioeconomic status and other behavioural factors. Several of the studies had ethnically homogeneous samples, while others reported nuanced differences. Being Black or Hispanic for example did appear to be a predictor of subsequent childbearing, and so there may be wider cultural influences that contribute to the difference. The review also revealed a lack of research on UK ethnic minority groups.

Religious beliefs

As some religions take a strong stance on teenage sex, contraception and abortion, it is valid that this has been investigated as a predictor of subsequent pregnancies. However, the evidence marginally supported the case against an association between 'religious involvement' and any subsequent pregnancy among teenage mothers (Davis, 2002; Raneri & Wiemann, 2007) or subsequent childbearing (Kalmuss & Namerow, 1994; Manlove *et al*, 2000; Mott, 1986). One study looking at subsequent childbearing found that adherence to Protestantism fundamentalism had an independent effect on the increased likelihood of having a second teenage birth (Mott, 1986). This may be because this religious stance encourages teenagers to remain abstinent but it is also likely that an opposition to abortion augments the number of subsequent pregnancies which result in birth. Meanwhile, looking at subsequent pregnancies following any previous pregnancy outcome, Boardman *et al* (2006) found that being raised Roman

Catholic or in a household with no religious affiliation was associated with a decreased likelihood of having an intended rapid subsequent pregnancy compared with teenagers having one pregnancy, while being raised Roman Catholic was also associated with a decreased likelihood of experiencing an unintended rapid subsequent pregnancy.

Age at first pregnancy

A young woman's age at first pregnancy (sometimes referred to as maternal age in those who give birth) has been explored as a predictor of having more than one teenage pregnancy. However, the findings are both conflicting and not easy to interpret as the length of time a young woman is at risk of pregnancy may be a confounding variable. Even in those studies which follow young women for a set period following a pregnancy outcome, such as 12 or 24 months, rather than across a study period, this will be complex, given the myriad of influences involved.

Eight studies reported a link between younger age at first birth and subsequent pregnancy (Cox *et al*, 2012; Davis, 2002; Gillmore *et al*, 1997; Pfitzner *et al,* 2003; Sims & Luster, 2002; Stevens-Simon *et al,* 1997, 2001; Waggoner *et al,* 2012). All but one of these studies used multivariate analysis (Davis, 2002); in this study, along with that carried out by Pfitzner *et al*, the design meant that younger mothers had longer exposure to pregnancy risk. In two studies by Steven-Simon *et al* (1997, 2001) younger maternal age was one of a set of potential risk factors which, together with a minimum number of other risk factors, predicted subsequent pregnancy in logistic regression models; although none of these variables achieved significance when looked at alone. Pregnancy interval analysis showed that younger teenagers had a longer interval between pregnancies than those who conceived later on.

Eleven studies reported no association between age at first birth and subsequent pregnancy (Barnet *et al*, 2008; Covington *et al*, 1991; Falk *et al*, 2006; Gillmore *et al*, 1997; Gray *et al*, 2006, Katz *et al*, 2011; Lewis *et al*, 2010; Maynard & Rangarajan, 1994; Polit & Kahn, 1986; Ranier & Wiesman 2007; Stevens-Simon *et al,* 1996a). Three studies split their samples into age groups, with all three reporting no association with younger age (Covington *et al*, 1991; Katz *et al*, 2011; Stevens-Simon *et al,* 1996a) and one reporting no association with older age (Katz *et al*, 2011). The remaining eight studies looked at maternal age in young women as a continuous variable and reported no association. Rather than age specifically, the study by Polit and Kahn (1986) used regression analysis and other variables to control for time factors. This showed that the longer a teenager was exposed to becoming pregnant following a previous pregnancy outcome (i.e. 'time at risk') the more likely they were to have a subsequent pregnancy. This would seem the most appropriate approach to understanding the association between age and subsequent teenage pregnancy. However, a limitation of this study was that the sample was fairly homogeneous in terms of being extremely disadvantaged teenagers.

There was more evidence supporting a positive association between age at first birth and subsequent childbearing. Five studies reported an association with younger age, three multivariate analyses (Manlove *et al*, 2000; Mott 1986; Sims & Luster, 2002) and two univariate (Jones & Mondy, 1994; Kalmuss & Namerow, 1994). Different authors used different age cut-offs in their studies. For example, two had relatively long follow-up periods, meaning the some of the young women would have been aged 22 at the final data collection points (Jones & Mondy, 1994; Mott, 1986). Also, while the study by Klamuss and Namerow (1994) reported that teenagers who had a first birth under-16 were much more likely to have a second birth compared with older teenagers, when other likely predictor variables were controlled for in the multivariate analysis this fell short of being significant.

Lastly two studies reported an association between maternal age at any first pregnancy outcome and subsequent pregnancy (Boardman *et al*, 2006; Zelnik, 1980). Interestingly, Boardman *et al* (2006) found that younger age at first conception (≤15 years) was negatively correlated with having an unintended pregnancy within two years but it was not associated with having an intended pregnancy. However, the findings would need to be replicated in further studies before drawing any conclusion. Indeed, the evidence appears to suggest that younger age at first pregnancy/birth is a better predictor of subsequent teenage births than other pregnancy outcome patterns. A possible reason for this may be that these young women have a different orientation towards their futures, and more positive attitudes towards pregnancy. There may also be important factors relating to the life experiences of younger women after a birth which influence the likelihood of having a subsequent birth. The difficulty in assessing age at first pregnancy/birth if time at risk is not controlled for would appear to be an important factor in explaining some of the variability in the findings.

Socioeconomic status

Low socioeconomic status is another variable which has been extensively explored for its association with both first time and subsequent teenage pregnancy, although there is some disagreement about whether it is related to higher rates of subsequent pregnancy. Six studies in this review had findings in favour of an association between lower socioeconomic status and any subsequent pregnancy among teenage mothers (Covington *et al*, 1991; Ford, 1983; Maynard & Rangarajan, 1994; Polit & Kahn 1986, Raneri & Weimann, 2007; Stevens-Simon *et al,* 2001) and eight studies failed to show a relationship (Barnet *et al*, 2008; Cox *et al*, 2012; Crittenden *et al*, 2009; Davis, 2002; Gillmore *et al*, 1997; Lewis *et al*, 2010a; Pfitzner *et al,* 2003; Stevens-Simon *et al,* 1996) However, different measures of assessing socioeconomic status were used in these studies (household income, household or individual receipt of financial assistance, Medicaid status, whether the index birth took place in a public or private

hospital), making comparisons between them difficult. For example, Covington *et al* (1991) showed that those teenagers who received prenatal care from a public clinic were three times more likely to have a subsequent pregnancy within two years of their first birth than those who attended a private clinic, while Maynard and Rangarajan (1994) found a statistically significant relationship between growing up in a household receiving welfare at least half the time and subsequent pregnancy.

In those studies where socioeconomic status was unrelated to subsequent pregnancy among teenage mothers, two used Medicaid status as a measure of poverty (Barnet *et al*, 2008; Stevens-Simon *et al*, 1996a), four used receipt of welfare (Barnet *et al* 2008; Cox *et al*, 2012; Crittenden *et al*, 2009; Gillmore *et al* 1997), one parental job classification (Gillmore *et al,* 2007), one used payer source for hospital care at first pregnancy (Pfitzner *et al,* 2003) and two household income (Davis, 2002; Lewis *et al,* 2010a). Some of these studies use homogenous populations, such as that by Barnet *et al* (2008). The authors noted that the population was predominantly Black and of low income, reducing the power of the study to identify low socioeconomic status as a risk factor for subsequent pregnancy and limiting the generalisability of the findings. This was also true for the study by Stevens-Simon *et al* (1996a) which reported no effect of Medicaid status on subsequent pregnancy; however, there was high receipt of Medicaid among both young women who had a subsequent pregnancy and those who did not. In contrast, some studies used more representative data from population-based surveys. For example, Davis (2002) found no association between subsequent pregnancy and household income using data from the National Longitudinal Survey of Youth (NLSY).

Four studies which looked at teenagers who have more than one birth similarly had mixed findings (Crawford *et al*, 2013; Kalmuss & Namerow, 1994; Manlove *et al*, 2000; Mott 1986). For instance, Mott (1986) found that level of parental education as an indicator of socioeconomic status was significantly associated

with an increased likelihood of having a subsequent teenage birth within 24 months postpartum across all age groups; but was most marked for young women aged 16 or younger at index pregnancy. Importantly the study by Crawford *et al* (2013) used new data linking maternity and abortion records to education records for young women in England. This found that young women living in more deprived areas were disproportionately more likely to have more than one birth before the age of 18.

In summary, the relationship between socioeconomic status and subsequent teenage pregnancy is far less defined than is evident with first-time teenage pregnancy and childbearing, and this may in part be due to the limitation of available data. Only one study has so far been undertaken in the UK, and so further population-based studies looking at subsequent pregnancy and fertility among British teenagers are needed, using localised deprivation indices.

6.3.2 Sexual and reproductive factors

A number of different aspects of sexual and reproductive behaviour have been examined as risk factors for subsequent pregnancy in teenagers, including: (1) age at first intercourse; (2) resumption and frequency of intercourse postpartum/ post-abortion; and (3) pregnancy intentions. Again, there are various complexities with measuring these variables and interpreting the findings from existing studies. Frequency of intercourse may differ between studies and it might be assumed that young people who live together have more regular intercourse, as do those intending to conceive. In addition, pregnancy intention is a complex concept and there are variations in how it is defined and measured.

In terms of the first of these, only three studies explored whether younger age at first intercourse could predict subsequent pregnancy and all found no association, including two multivariate analyses (Crittenden *et al*, 2009; Maynard & Rangarajan, 1994). Continued sexual activity postpartum has also been significantly linked with subsequent pregnancy in teenage mothers in two studies.

Lewis *et al* (2010a) reported that resumption of sex soon after a maternity was common and most participants (77%) had resumed sexual activity by three months postpartum. Being sexually active for more than three months was significantly associated with subsequent pregnancy in the multivariate analysis. Peabody *et al* (1982) reported that planning to engage in sexual intercourse postpartum was associated with subsequent pregnancy, although this was only a descriptive finding and the study was considered poor in terms of the quality assessment due to the small sample size and low external validity.

Some studies have explored whether having an intended first pregnancy was linked to subsequent pregnancy among teenager, while others have looked at the intendedness of a subsequent pregnancy. In terms of the former, the evidence was conflicting. Two studies reported a positive association between a desired first pregnancy and becoming pregnant postpartum by 12 months (Stevens-Simon *et al*, 1996a) and 24 months (Raneri & Wiemann, 2007). In both these studies this variable dropped from the final multivariate model as it was not significant. Stevens-Simon *et al* (2001) also reported 'first pregnancy not unplanned' as a significant predictor of subsequent pregnancy in conjunction with eight or more other predictor variables. In contrast, two studies found no association between first pregnancy intention and having a subsequent pregnancy (Pfitzner *et al,* 2003; Rubin & East, 1999). Rubin and East (1999) compared young women who reported that they 'wanted' their first baby with those who reported that this pregnancy 'just happened'. Pregnancy intention was unrelated to subsequent pregnancy but it was associated with pregnancy outcome (birth or abortion); with those intending to become pregnant more likely to give birth. One of the limitations of this study was that there was no additional probing to identify ambivalence towards pregnancy.

The influence of subsequent pregnancy intentions and the likelihood of having one has also been investigated. It has suggested that some young mothers want to complete their families and avoid a long interval between children (Cater &

Coleman, 2006). Four studies found that intention to have a subsequent child predicted subsequent pregnancy (Gilmore *et al,* 1997; Lewis *et al,* 2010a; Matsuhasi *et al,* 1989; Ranier & Weimann, 2007). However, Barnet *et al* (2008) showed there was no statistically significant relationship between wanting another pregnancy within two years of the index pregnancy and an increased likelihood of having a subsequent pregnancy before the age of 20. Then again, the overall proportion that reported wanting another pregnancy was very low (3% of the overall sample).

In multivariate analyses, two studies found that those young mothers who reported wanting their first birth were more likely to have a subsequent birth within 24 months (Kalmuss & Namerow, 1994) and 36 months (Mott, 1986). While in a qualitative interview study, Bull and Houge (1994) reported that teenagers were more likely to have a subsequent pregnancy if they wanted to complete their family rather than finish school or enter employment. Only one quantitative study looked at subsequent childbearing intentions in relation to having more than one birth (Black *et al*, 2006b). Only 12% of young mothers in their study said that it was likely they would have another baby within five years, although this aspiration was not significantly associated with having a second child. However, the study by Boardman *et al* (2006), looking at subsequent pregnancy following any previous outcome, found that those young women who had an intended first pregnancy were significantly more likely to experience an intended subsequent pregnancy.

Clearly the findings suggest a link between planning to become pregnant and having a subsequent pregnancy, which is unsurprising. There is also good evidence that resuming sexual activity shortly after delivery increases the chance of having more than one pregnancy. However, as many subsequent pregnancies are not planned, these findings suggest further research is needed to determine what sexual and contraceptive behaviours are most likely to lead to subsequent

pregnancy and the best ways to encourage teenagers to resume sexual activity safely.

6.3.3 Obstetric variables

Studies have explored the relationship between young women's obstetric history and having more than one pregnancy. These have largely focused on whether the outcome of a young woman's first pregnancy (live birth, stillbirth, abortion or miscarriage) influences the likelihood of a subsequent pregnancy. There is often variation between how 'poor prior obstetric outcome' has been defined in these studies, and as most focus on young mothers, these outcomes occurred prior to a maternity so the young women will have been pregnant on at least three occasions. They therefore perhaps represent a particular subgroup of teenagers. Other variables, such as having a low birth-weight baby, breastfeeding or whether the first child was placed for adoption, have also been investigated but in a very limited number of studies so have not been included in the discussion.

A prior poor obstetric outcome is typically considered to occur when a pregnancy ends in miscarriage or stillbirth. Four studies identified previous miscarriage as a predictor of subsequent pregnancy (Coard *et al,* 2000; Pfitzner, *et al, 2003;* Stevens-Simon *et al,* 1996a, 2001*)*. The two separate studies by Stevens-Simon *et al* used multivariate analysis, and this showed that history of miscarriage prior to index pregnancy was significantly associated with rapid subsequent pregnancy. On the other hand, three studies found no association between prior poor obstetric outcome and subsequent pregnancy; although the definition of this varied between studies from miscarriage and stillbirth (Barnet *et al,* 2008), to miscarriage or abortion (Raneri & Wiemann, 2007), and any pregnancy that did not end in a birth (Crittenden *et al,* 2009).

The link between previous abortion and subsequent pregnancy among teenage mothers is more tenuous, but is important contextually in relation to the qualitative strand of this thesis. Only one study by Pfitzner *et al* (2003) reported

an association between the two, and this did not examine the relationships between multiple variables at the same time. Six studies reported no association (Barnet *et al,* 2011; Coard *et al*, 2000; Falk *et al,* 2006; Polit & Kahn, 1986) including two studies previously discussed (Raneri & Wiemann, 2007; Crittenden *et al,* 2009). In the study by Falk *et al* (2006), having a previous pregnancy that ended in abortion prior to giving birth was not significantly associated with subsequent pregnancy; however, the abortion rate among those who became pregnant after giving birth was five times higher than the national level. The findings also revealed that on average, new pregnancies which led to a second child occurred 8 months postpartum, compared with 5 months for those that ended in abortion. The authors argued that this may be because the two groups may have different pregnancy intentions.

Another important obstetric variable is 'time at risk'. This was discussed earlier when looking at the influence of age at first birth on subsequent pregnancies. However, it was the specific focus of two studies. Polit and Kahn (1986) reported that the longer a teenager was 'at risk' of pregnancy from a previous outcome, the more likely she was to have a subsequent pregnancy. However, the sample was relatively homogeneous in terms of socioeconomic status and age. Perhaps somewhat obviously, Maynard and Rangarajan (1994) found that those teenagers who were pregnant at enrolment, and therefore had less time in which they could become pregnant post-delivery, were significantly less likely to have a subsequent pregnancy in the next 24 months compared with those who had already given birth.

Only a very limited number of studies reported on the influence of obstetric variables on subsequent childbearing. However, two studies which looked at pregnancy following any previous outcome, found that having a previous miscarriage or abortion was significantly related to subsequent pregnancy (Boardman *et al*, 2006; Jacoby *et al*, 1999). In the study by Boardman *et al* (2006), prior poor obstetric outcome significantly increased the likelihood of having a

subsequent intended pregnancy but not a subsequent unintended pregnancy. Previous obstetric outcome (live birth vs. abortion) was not found to be associated with either. Zelnik (1980) reported that those teenagers whose pregnancies ended in abortion rather than birth were less likely to have a subsequent pregnancy within 24 months.

The evidence indicates that having a miscarriage may increase young women's chances of having a subsequent pregnancy, as does the length of time since a previous pregnancy outcome. However, this will depend on how this is defined and measured. The evidence for other obstetric variables was either weak or conflicting and further exploration of the influence of previous pregnancy outcome on subsequent pregnancy is needed.

6.3.4 Psychosocial factors

A number of psychosocial factors which have often been found to be associated with first-time teenage pregnancy have also been explored for their association with subsequent teenage pregnancy. Different valid and reliable measures are available to assess these various risk factors but their use may vary between studies, and the scales which are most popular in the US are not always the same as those used in the UK. Furthermore, there is often high collinearity between many of these psychosocial risk factors.

Poor mental health

This review identified 10 studies which explored the relationship between poor mental health (i.e. depressive symptoms and/or stress) and subsequent pregnancy in teenage mothers: four of these reported a significant positive association (Barnet *et al*, 2008; Katz *et al*, 2011; Stevens-Simon *et al*, 1997, 2001) all using multivariate analysis; although in the two studies by Stevens-Simon *et al* this was in conjunction with other predictor variables rather than alone. The study by Barnet *et al* (2008) reported that the rate of subsequent pregnancies in young

women with depressive symptoms during an index pregnancy was 40% higher by two years postpartum than in those young women without depressive symptoms. However, the sample was predominantly Black teenage mothers.

Seven studies reported no association, but the analysis in five of these only looked at poor mental health as a single variable (Lewis *et al*, 2010a; Pfitzner *et al*, 2003; Raneri & Wiemann, 2007; Sims & Luster, 2002; and Stevens-Simon *et al*, 1996a). One of these studies only scored one star in the quality assessment, due to high attrition and not describing procedures clearly (Sims & Luster, 2002). In a study by Crittenden *et al* (2009), which specifically looked at the association of mental health factors in the prediction of subsequent pregnancy, no association was found in the multivariate analysis in terms of mental health, anxiety or depression scores using the RAND Mental Health Inventory. Only two studies looked at poor mental health and having more than one birth as a teenager, and this was found to be associated in one study (Sims & Luster, 2002), for which quality issues were identified, and not in another (Black *et al*, 2006b). Both studies used different scales to measure the young women's mental health status.

Socio-emotional state

The evidence did not support a clear association between subsequent pregnancy among teenage mothers and socio-emotional state (comprising of factors such as lower self-efficacy, self-esteem and feelings of control). Only two studies reported a significant positive association (Lewis *et al*, 2010a; Sims & Luster, 2002), while no association was reported in five papers (Adams *et al*, 1990; Davis, 2002; Lewis *et al*, 2010a; Raneri & Wiemann, 2007; Sims & Luster, 2002). However, these studies all measured different variables to some extent. There were also different follow-up periods between studies and measures were taken a different time points.

Substance use

The association between subsequent pregnancy among teenage mothers and drug, alcohol or tobacco use was also weak. Some studies reported on these variables collectively and thus they have been grouped together for the purpose of summarising the evidence in this review. Three studies reported a positive association (Gillmore *et al*, 1997; Raneri & Wiemann, 2007; Stevens-Simon *et al*, 1996a); although only one used multivariate analysis and this reported that the 'highest level of drug use' had low predictive power in the final multivariate models (Gillmore *et al*, 1997). However, when the two proximate determinants, frequency of intercourse and contraceptive use, were removed, the importance of this variable increased, suggesting that it has an indirect effect. Raneri and Wiemann (2007) reported that teenagers who had a subsequent pregnancy were more likely to report smoking within the first three months postpartum of the index pregnancy. However, the authors found there were no associations between subsequent pregnancy and alcohol and drug use, and none of these variables featured in the final multivariate model.

Seven studies reported no associations between substance used and/or smoking and subsequent pregnancy among teenage mothers (Barnet *et al*, 2008; Crittenden *et al*, 2009; Davis, 2002; Falk *et al*, 2006; Lewis *et al*, 2010a; Pfitzner *et al*, 2003; Raneri & Weimann, 2007). Only one study explored substance use and subsequent childbearing (Black *et al*, 2006b) and no association was found.

Aggressive behaviours and minor offences

A small number of studies looked at the association between aggressive behaviours and minor offences with subsequent pregnancy among teenage mothers. The findings were equivocal. Two studies found a positive association. Crittenden *et al* (2009) found that two measure of aggression were significantly related to subsequent pregnancy; 'sometimes people must use physical force to let others know just how important something is to them' and 'how confident are

you in your ability to settle differences with people close to you without hitting, pushing or getting physical'. Meanwhile, Gillmore *et al* (2007) reported that fighting (involving hitting) was a moderate determinate of subsequent pregnancy in the final multivariate model, while minor delinquency was also significant in the univariate model results. In contrast, no association was reported in two studies between theft or violence (Davis, 2002) or desire to hurt others (Patchen *et al*, 2009) with subsequent pregnancy in teenage mothers.

Sexually abused and/or coerced

Six studies explored whether reported sexual abuse or coercion was a risk factor for subsequent pregnancy among teenage mothers (Barnet *et al*, 2011; Crittenden *et al*, 2009; Katz *et al*, 2011; Patchan *et al*, 2009; Pfitzner *et al,* 2003; Raneri & Weimann, 2007). None of these studies reported a significant association. Some looked at historic experience of sexual abuse during childhood (e.g. Crittenden *et al*, 2009), while others looked at sexual assault and coercion since delivery (e.g. Raneri & Wiemann, 2007).

Boardman *et al* (2006) undertook a separate analysis of data from the 1995 National Survey of Family Growth (NSFG), and found there was a marginal decrease in the likelihood of having a non-voluntary sexual experience and an intended subsequent pregnancy. Unsurprisingly, this suggests that pregnancies resulting from such situations are less likely to be intended.

Non-specific abuse

Three studies compared teenage mothers who had a subsequent pregnancy with those who did not on other measures of abuse (e.g. physical contact, verbal abuse) (Crittenden *et al*, 2009; Pfitzner *et al*, 2003; Raneri & Wiemann, 2007). Only one study reported a positive association, and this found that being hit by a partner or husband within three months postpartum was a significant

independent predictor of subsequent pregnancy in regression analysis (Raneri & Wiemann, 2007).

These findings indicate that psychosocial factors do bear on the chance of subsequent pregnancies among teenage mothers, in particular measures of depression. This is likely to decrease a young woman's sense of agency, and increase sexual risk-taking. Aggression was also linked to subsequent pregnancies. Interestingly the evidence was unsupportive of a link between substance use and subsequent pregnancy among teenage mothers, although this is often implicated in first-time pregnancies. One explanation is that drug and alcohol use declines during pregnancy and once a young person has a small child to look after (Gilchrist *et al*, 1996; Lohr *et al,* 1992). Similarly, there was no consistent support for the role of sexual coercion and experiences of abuse in predicting subsequent pregnancies.

6.3.5 Education and employment

Education and employment have been investigated in numerous studies among first-time teenage mothers. These indicate that lower academic attainment and future educational and career aspirations were consistently linked with teenage pregnancy (Imamura *et al*, 2007). However, it is difficult to establish the direction of this relationship; whether lower educational attainment and employment prospects influence pregnancy, or if pregnancy leads to lower educational attainment and employment prospects. This section will explore what existing evidence suggests about the association between education and employment in relation to subsequent teenage pregnancy.

Educational attainment

Ten studies investigated whether lower educational attainment was associated with subsequent pregnancy among teenage mothers. Three found the relationship to be statistically significant (Maynard & Rangarajan, 1994; Stevens-

Simon et al, 1997, 2001); although for the two papers by Stevens-Simon *et al* this was only in combination with other variables. Seven reported no association (Coard *et al*, 2000; Covington *et al*, 1990; Crittenden *et al*, 2009; Lewis *et al*, 2010a; Pfitzner *et al*, 2003; Polit & Kahn, 1986; Raneri & Weimann, 2007), of which four used univariate analysis. Various measures of educational attainment were used in these studies, including reading tests, highest grade of exam passed (school leaving qualifications), whether graduated, and whether a young woman repeated a grade, and as such, this limits comparability. None of the studies used population-level data and there were also potentially other variables which mediated the influence of educational attainment.

The evidence from studies looking at the association between lower educational attainment and subsequent childbearing among teenage mothers was also mixed. Five studies found that young mothers who had a subsequent child were significantly more likely to have lower educational attainment - three using multivariate analysis (Kalmuss & Namerow, 1994; Mims & Biordi, 2001; Mott, 1986). For example, using data from the National Survey of Youth (NSY) 1979 – 1988, Kalmuss and Namerow (1994) found that completing 12 or more years of education was related to lower rates of subsequent births within 24 months. However, the presence of reading materials in the home did not differ between those young mothers who had a subsequent birth and those who did not. Among those studies looking at subsequent childbearing, Bull and Hogue (1998) found that struggling to balance being a mother and a student can lead to an increased risk of academic failure, which has been associated with closely spaced births. It may also be that these young women preferred to complete their family rather than return to education and/or enter work (Cater & Coleman, 2006).

In contrast, three studies using multivariate analysis reported no association (Black *et al*, 2006b; Crawford *et al*, 2013; Sims & Luster, 2002). The UK study by Crawford *et al* (2013) reported that there were no statistically significant effects of individual test scores or the academic attainment of the school on young

women having two or more maternities before the age of 18. However, the authors acknowledged that due to the small number of young women in this age group who had had two or more maternities, there was an increased likelihood of a Type II error (finding there is no effect, when there actually is an effect).

School status

Sixteen papers looked at educational attainment via the relationship between school status (in school or school drop-out) and subsequent pregnancy among teenage mothers. The findings were varied, with nine studies reporting that dropping out of full-time education was associated with subsequent pregnancy (Barnet *et al*, 2008; Katz *et al*, 2011; Matsuchashi *et al*, 1989; Polit & Kahn, 1986; Raneri & Weinmann, 2007; Stevens-Simon *et al*, 1996, 1997, 1998, 2001) and seven studies not finding an association (Coard *et al*, 2000; Konaik-Griffin *et al*, 2002; Lewis *et al*, 2010a; Maynard & Rangarajan, 1994; Pfizner *et al*, 2003; Ranier & Wienamm, 2007; Stevens-Simon *et al* 1986). It is worth noting that some studies measured this variable at baseline only, while others looked at multiple intervals during the follow-up period; thus the hypotheses being tested somewhat differed (i.e. whether school dropout is a risk factor for subsequent pregnancy or whether it remains the same risk).

In terms of those that reported an association, Polit and Kahn (1986) looked at outcomes for teenagers with and without a subsequent pregnancy using multivariate analysis, while controlling for background and demographic variables, such as ethnicity, maternal age, and early school behaviours. This showed that those teenagers who had a subsequent pregnancy within 24 months were less likely to be in school at baseline than those who did not have a subsequent pregnancy and had higher school dropout rates. However, these variables only explained 7% of the variation, meaning their power to predict which teenage mothers will have a subsequent pregnancy was low. The follow-up measure showed that these teenagers were less likely to return to school or

get a job after their index delivery. The authors concluded that "subsequent pregnancy appears to have exacerbated the problems that are typically associated with early childbearing" (p.170). Meanwhile, in a study by Raneri and Wiemann (2007), having dropped out of school prior to first pregnancy was not associated with subsequent pregnancy in the univariate analysis. However, in the multivariate analysis those young mothers who were enrolled at school three months postpartum were significantly less likely to have a subsequent pregnancy than those teenagers who were not enrolled at school.

Baseline educational status (in school or dropped out) was not associated with subsequent pregnancy in four studies using univariate analysis (Coard *et al*, 2000; Koniak-Griffin *et al*, 2002; Maynard & Rangarajan, 1994; Pfitzner *et al*, 2003). The other studies which found no association used different assessment points. For example, Lewis *et al* (2010a) reported in a univariate analysis that returning to school within 12 months postpartum was not significantly associated with subsequent pregnancy in teenage mothers. However, overall, only 27% of teenagers in the sample returned to school for at least 3 months during this time period.

Two studies using nationally representative surveys found that school status was associated with having more than one child. Kalmuss and Namerow (1994) reported that those young women who completed at least one year of school in the interval between baseline and 24 month follow-up (or subsequent pregnancy) were less likely to have a subsequent pregnancy than those who did not return to school. Manlove *et al* (2000) found dropping out of school prior to first pregnancy or after first pregnancy was significantly associated with having a second or subsequent child in the multivariate model. Conversely, Black *et al* (2006b) found that teenage mothers who had a subsequent pregnancy did not differ from those who did not in terms of school status.

Future aspirations

The relationship between future aspirations (such as career plans and completing high school) and subsequent pregnancy was investigated in five studies, of which three reported an association using multivariate analysis (Davis, 2002; Stevens-Simon *et al*, 1997, 2001). Using data from the NLSY, Davis (2002) reported that lower educational aspirations among unwed teenage mothers was a significant predictor of subsequent pregnancy in the final logistic regression model, while in two studies by Stevens-Simon *et al* (1997, 2001) that looked at the predictive power of several characteristics when simultaneously present, no future career plans was associated with having a subsequent pregnancy among teenage mothers. Two studies reported no relationship between future aspirations and subsequent pregnancy using data from separate randomised control trials (Gray *et al*, 2006; Sims & Luster, 2002). However, both these studies scored two stars of less using the MMAT to assess their quality.

Future aspirations might be assumed to have a stronger association with teenagers who have more than one child. However, this variable has only been investigated in two identified studies and the findings were inconsistent; with one study supporting an association (Manlove *et al*, 2000) and one not (Sims & Luster, 2002). This latter study also had a low quality score.

Employment

Like education, past or current employment have been investigated for their association with subsequent pregnancy. Six studies looked at this variable: four suggested that teenagers who have a subsequent pregnancy are less likely to be in employment or job training after giving birth (Matsuhasi *et al*, 1989; Katz *et al*, 2011; Lewis *et al*, 2010a; Polit & Kahn, 1986; although these were assessed at different follow-up points postpartum. In contrast, three studies did not support an association (Maynard & Rangarajan, 1994; Polit & Kahn, 1986; Raneri & Wiemann, 2007). It should be noted that in the study by Polit & Kahn, being

employed at baseline (as a proxy indicator of early motivational levels) was not associated with subsequent pregnancy. However, all the variables had low explanatory power. Teenagers with a subsequent pregnancy were less likely to be working at the final interview.

In summary, the findings appear to be suggestive of an association between being a school dropout and subsequent childbearing. However, the direction of this relationship was unclear. There were fewer consensuses on other educational and employment variables. Becoming a teenage mother creates a range of practical barriers for young women, which make returning to school or employment a challenge. Making this easier and more appealing could offer some protection against subsequent pregnancies in this population.

6.3.6 Relationships

Partnership context and individual relationship dynamics have been investigated in relation to subsequent pregnancy among teenage mothers. Many studies have focused on the role of marriage, particularly earlier studies, as it could be perceived as an indicator for wanting to have a family. Marriage may be less relevant to teenagers in today's society. Instead there has been a rise in cohabitation and if a young couple are living together they are more likely to have frequent sexual intercourse. For this review, marriage has been combined with being in a committed long-term relationship or living with partner. Other characteristics which have been explored by more than one study include: having an older partner, quality of relationship with birth father, and getting together with a new partner.

Married, long-term relationship and cohabiting

Fifteen studies explored the relationship between being married, being in a long-term relationship or living with a partner and subsequent pregnancy. Three of these found marital status to be associated with subsequent pregnancy among

teenage mothers, with all using data from the 1970s and 1980s (Covington *et al*, 1991; Ford, 1983; Stevens-Simon *et al*, 1986). While Ford (1983) used nationally representative data from the NSFG, only 29 young mothers took part in the study by Stevens-Simon *et al* (1986) and just descriptive findings were reported. Stevens-Simon *et al* (1997, 2001) also reported that being married or having a live-in boyfriend (2001 only) were significant predictors of subsequent pregnancy, but only when combined with other predictor variables. Four other studies looked at the effect of being in a long-term relationship or cohabiting on the likelihood of subsequent pregnancy among teenage mothers and found a positive association (Gillmore *et al*, 1997; Lewis *et al*, 2010a; Pfitzner *et al*, 2003; Rubin & East, 1999); although these studies also sometimes included marriage. For example, Gillmore *et al* (1997) found that being in a long-term relationship with a partner was a significant determinant of subsequent pregnancy in the final multivariate model. Pfitzner *et al* (2003) described how relationship status at index conception was significantly associated with subsequent pregnancy; with those young women who had a subsequent pregnancy significantly more likely to be married or cohabiting when compared with those who did not.

Six studies reported no association with marital status (Barnet *et al*, 2008; Gray et al, 2006; Koniak-Griffin *et al*, 2001; Matsuhasi *et al*, 1989; Raneri & Wiemann, 2007), being in a long-term relationship (Barnet *et al,* 2008, Raneri & Wiemann, 2007) or living together (Barnet *et al* 2008, Koniak-Griffin *et al*, 2002). There were various subtleties in the study designs, measures used and samples. For instance, in a secondary analysis of longitudinal cohort data for 779 first-time teenage mothers, Raneri and Wiemann (2007) reported that those teenagers who were married or in a relationship with the father of the first child (assessed at 3 months postpartum) were more likely to have a subsequent pregnancy than those who did not in the univariate analysis but this did not achieve a satisfactory level of significance. Whilst in a study by Barnet *et al* (2008), being married, living with partner or going out with the baby's father at baseline or two years postpartum was not associated with subsequent pregnancy. However, the sample was

relatively homogeneous in that only two participants were married, and the young women were predominantly Black and of low socioeconomic status.

Four studies explored the association between marriage, being in a long-term relationship or cohabiting and subsequent childbearing in teenager mothers; three reported a positive association (Black *et al*, 2006b; Kalmuss & Namerow, 1994; Mott 1986). Using data from the NSY, Kalmuss and Namerow (1994) found the significant effect of marriage varied depending on changes in marital status over time; although those young mothers who had been married were significantly more likely to have a second or subsequent birth than those who had never been married. Those young women whose marriage ended before the 24 month follow-up were not more likely to have a subsequent birth than those who were unmarried during this period. Black *et al* (2006b) reported that teenage mothers who had a second child were more likely to be romantically involved with the father of the first child at 24 months postpartum, and significantly less likely to be involved with a new partner when compared with teenage mothers who did not have a second child. There were no differences in marital rates between the two groups but these were low across the sample (2%). One study reported no difference between marital status before or after first birth and a subsequent maternity (Manlove *et al*, 2000).

Three studies looking for predictors of subsequent pregnancy following any previous pregnancy outcome explored the association with marriage, being in a committed long-term relationship and having a live-in partner (Boardman *et al*, 2006; Gispert *et al*, 1994; Koenig & Zelnik, 1982). These all reported a positive effect, although Boardman *et al* (2006) found that young women who were married at the time of a second conception were less likely to have a subsequent unintended pregnancy but this did not predict an intended pregnancy.

New relationships

Getting together with a new partner can provide impetus for sexual activity. It is also possible that they might appear to be a more suitable 'father material' or desire a child themselves (Bunting & McAuley, 2004). Three studies found an association between new relationships and subsequent pregnancy. Raneri and Wiemann (2007) found that not being in a relationship with the father of the first child at three months postpartum was a significant predictor of subsequent pregnancy in the multivariate logistic regression. In two studies by Stevens-Simon *et al* (1997, 2001), getting together with a new partner was a significant predictor of subsequent pregnancy among teenage mothers in combination with other risk characteristics. Only one study looking a subsequent childbearing explored the effect of getting together with a new partner and found that this significantly decreased the likelihood of having a second child at 24 months postpartum (Black *et al*, 2006b).

Partner age

Age differences between young mothers and their partners have been investigated in the context of first-time pregnancy, in particular, the role of adult males (Lindberg *et al*, 2007; Miller *et al*, 1997). Six studies explored the relationship between partner age and subsequent pregnancy, three reporting a significant association with having an older partner (Matsuhasi *et al*, 1989, Raneri & Wiemann, 2007, Stevens-Simon *et al*, 1997) and three no association with partner age (Agurcia *et al*, 2001; Barnet *et al*, 2011; Pfitzner *et al,* 2003). The age differences in these studies varied. For example, Matsuhasi *et al* (1989) reported that having an older partner was significantly associated with having a subsequent pregnancy; although in both groups (subsequent pregnancy and no subsequent pregnancy) fathers were on average 4-5 years older. This meant they were only slightly older in the subsequent pregnancy group. In the study by Raneri and Wiemann (2007), participants who were in a relationship with an adult male

more than three years older were significantly more likely to have a subsequent pregnancy than those with partners that were a similar age.

In contrast, one of the three studies which found no association specifically explored behavioural risks of low socioeconomic status teenage mothers involved with older partners (≥5 years) Verses similar age partners (±2 years) (Agurcia *et al*, 2001). No difference was observed in subsequent pregnancy rates between the two groups. One study investigating subsequent pregnancy following any previous pregnancy outcome looked at the effect of having an older partner. Boardman *et al* (2006) found that having a partner who was four or more years older, was not associated with intended or unintended subsequent pregnancies.

Quality of relationship

Two studies explored that quality of relationship between teenage mother and birth father and its link to subsequent teenage pregnancy (Gillmore *et al*, 1997; Lewis *et al* (2010a). Neither reported an association and both were assessed as having three or more stars in the quality assessment, meaning they were better quality studies.

Partner pregnancy intentions

One study specifically looked at risk factors for unintended verses intended subsequent pregnancies in young women following any pregnancy outcome. Boardman *et al* (2006) found that those young women who had a partner who desired a pregnancy were significantly more likely to have a subsequent intended pregnancy within 24 months compared with having one teenage pregnancy only. However, this variable was negatively associated with unintended subsequent pregnancy within 24 months. Another study by Ranier and Weimnann (2007) found no association between partners 'not wanting a pregnancy' with the likelihood of having subsequent teenage pregnancy.

Despite marriage being less relevant among young women today, the evidence suggested that being in a committed relationship or living with a partner was often a moderate predictor of subsequent pregnancy and subsequent childbearing among teenage mothers. This may be because these young women have more opportunity for sexual activity or they may be looking to complete their families. Partner intention to have a child was also found to be associated with planned pregnancies in one study, so further research exploring how male partners' attitudes and behaviours affect young women's sexual and reproductive decision-making is required.

6.3.7 Family characteristics

Several aspects of household characteristics and family background have been explored in relation to subsequent teenage pregnancy including family size, ordinal position, living circumstances, parents' education, being the daughter of a teenage mother, and family support. They will each be looked at in turn.

Households

Family size was investigated in five studies, two which showed a positive relationship with subsequent pregnancy among teenage mothers (Stevens-Simon *et al*, 1997, 2001) and three which reported no association (Coard *et al*, 2000; Crittenden *et al*, 2009; Matsuhasi *et al*, 1989). The two studies which reported an association between larger family size (≥3 siblings) and increased likelihood of subsequent pregnancy did so only in the presence of other predictor variables. The study by Matsuhasi *et al* (1989) found that neither ordinal position (order a child was born) nor family size were associated with subsequent pregnancy. Furthermore, two studies looking at the number of siblings a young woman had and subsequent childbearing reported no significant association (Mott, 1986; Kalmuss & Namerow, 1994). Overall, these findings would suggest that family size alone is a poor predictor of subsequent pregnancy, regardless of pregnancy outcome pattern.

Nine studies explored the influence of living arrangements on subsequent pregnancy among teenage mothers. Five of these reported an association between not living with one or more parents and subsequent pregnancy (Gillmore *et al*, 1997; Matsuhasi *et al*, 1989; Stevens-Simon *et al*, 1996a, 1997, 2001). All these studies had diverse samples. The findings are perhaps confounded as it is more likely that young women not living at home will be living with a partner. In contrast, the study by Davis (2002), using multivariate analysis of data from the NLSY, found that those teenagers who had a subsequent pregnancy were more likely to be living in a household with their mothers present. This was consistently significant across the logistic regression models. However, as the study relied on existing variables measure by the NLSY this was compared with teenagers whose mothers were absent in the household but other adult kin were present; the absent category was living in a household with no adult kin.

Four studies reported no association between family living arrangements and subsequent pregnancy (Barnet *et al*, 2008; Crittenden *et al*, 2009; Katz *et al*, 2011; Maynard & Rangarajan, 1994). All of these studies had predominantly Black samples.

In those studies looking at subsequent childbearing, two found an association with not living with parents (Black *et al*, 2006; Manlove *et al*, 2000) and one reported no association with family living arrangements (Mott, 1986). All used multivariate analysis. There were differences in how the variables were defined. For example, in the study by Mott (1986) living with two parents at age 14 was not associated with subsequent birth within 24 months in all ethnic groups. While Manlove *et al* (2000) indicated that those young women who lived with at least one parent after giving birth were significantly less likely to have a second or subsequent teenage birth before aged 20. Moreover, those teenage mothers who lived alone were less likely to have a subsequent birth than those living with a partner. The evidence to support the effects of having divorced or separated

parents on subsequent teenage pregnancy was weak and requires further investigation (Manlove *et al*, 2000; Kalmuss & Namerow, 1994).

Boardman *et al* (2006) reported that not living in a two-parent household as a teenager was a significant predictor of having a subsequent unintended or intended pregnancy following any previous outcome, compared with those young women who had one pregnancy only. Likewise among teenagers with any first pregnancy outcome, Gispert *et al* (1994) found those who had a subsequent pregnancy were more likely to not have a father present in the home.

Family support

The support available to pregnant and mothering teenagers has been investigated for a number of reasons. Firstly, unmet emotional need may prompt teenagers to seek sexual intimacy and create stability in a family of their own (Cater & Coleman, 2006). However, if a young woman has been well supported in motherhood, then she may be more inclined to perceive this as a positive experience. Ten studies looked at the role of family support in predicting subsequent pregnancy. In some cases this concerned perceived support when growing up, while in others this related to the young women's perceptions of support from family members after becoming a mother. Five supported an association between lower family support and subsequent teenage pregnancy (Cox *et al*, 2012; Raneri & Wiemann, 2007, Stevens-Simon *et al*, 1996, 1997, 2001). In three of these studies, which found young mothers who had lower family support were more likely to have a subsequent pregnancy, this variable was significant in the univariate analysis but non-significant in the multivariate analysis - when reproductive behaviour factors and other background factors were controlled for (Cox *et al*, 2012; Raneri & Wiemann, 2007; Stevens-Simon *et al*, 1996a). Four found no association (Adams *et al*, 1990; Crittenden *et al*, 2009; Gillmore *et al*, 1997; Sims & Luster 2002).This suggests that the variable shares a great deal of overlap with other variables in the models. Lower family support

was significantly associated with subsequent pregnancy in two other studies using multivariate analysis, but only in combination with other variables (Simons-Steven *et al*, 1997, 2001).

Only one study investigating teenagers who have more than one child looked at the influence of maternal support, and this found no association (Black *et al*, 2006b). Poor parental communication was explored in two studies looking at subsequent teenage childbearing. Mims and Biordi (2001) looked at communications patterns in Black families with one or more children and found that young mothers who had a subsequent birth were more likely to report negative interactions with their mother than those with one child. No association was found between father-daughter communication and subsequent childbearing. In a qualitative study, Bull and Hogue (1998) suggested that parents' unresolved anger toward their daughters from a first pregnancy, along with issues discussing sex and contraception, may result in poor parental communication and conflict. This in turn may contribute to an increased risk of subsequent childbearing. Clearly, more research in this area is needed given the limited evidence.

Parental education attainment

The educational attainment of a teenage mother's parents was measured in a number of studies. Some authors used this as a proxy indicator of socioeconomic status, while it may also be assumed that parents who achieve academically act as role models to their daughters. The findings almost unanimously refuted parental education as a predictor of subsequent teenage pregnancy. The one study that did report an association with lower mother education (Sims & Luster, 2002) scored low on the quality assessment. In contrast, six studies found no association, three using multivariate analysis (Crittenden *et al*, 2009; Maynard & Rangarajan, 1994; Polit & Kahn, 1986) and three using univariate analysis (Coard *et al*, 2000; Gillmore *et al*, 1997; Raneri & Wiemann, 2007).

The support for an association between parental education and having more than one child as a teenager was also mixed, and only investigated in a limited number of studies of varying quality. Two reported an association between parents of teenage mothers who had low educational attainment and subsequent teenage childbearing (Kalmuss & Namerow, 1994; Mims & Biordi, 2001). However, Sims and Luster (2002) found that having a less educated mother or father was not a significant predictor of a second child by the 24 month follow-up assessment.

Daughter of a teenage mother or sibling

Some studies have explored whether having a mother who was herself a teenage mother, is a risk factor for subsequent pregnancies. This has been associated in first-time pregnancies (Seamark & Gray 1998). However, none of the studies which looked at subsequent pregnancies among teenage mothers found an association (Maynard & Rangarajan, 1994; Pfitzner *et al*, 2003; Polit & Kahn, 1986; Raneri & Wiemann, 2007), nor was a relationship found with having a sister who was a teenage mother in two studies (Gillmore *et al*, 1997; Raneri & Wiemann, 2007). Boardman *et al* (2006) found that having a mother who was a teenage mother was not associated with intended or unintended pregnancies following any previous pregnancy outcome. Interestingly this variable was not looked at in any of the studies which specifically explored subsequent childbearing.

The influence of family members on subsequent teenage pregnancy is complex and it is difficult to draw conclusions from the existing evidence. In terms of family social support, one of the challenges is that inconsistent measures have been used which make it difficult to compare studies.

6.3.8 Friends

A small number of studies looked at the influence of interpersonal variables involving peers. Two studies explored whether having close friends who were

pregnant or teenage mothers increased the likelihood of having a subsequent pregnancy among teenage mothers. Gillmore *et al* (1997) found in the final multivariate model that young mothers with a best friend who had ever been pregnant had an elevated risk of subsequent pregnancy. While Raneri and Wiemann (2007) reported that having friends who were teenage mothers only approached significance in its association with subsequent pregnancies in the univariate analysis. However, in the multivariate analysis this was an independent predictor of subsequent pregnancy. The authors suggested that ideas about normative peer behaviour may influence teenagers' own sexual behaviour and pregnancy intentions.

Black *et al* (2006b) found there were no differences between mothers who had a second baby and those who did not in terms of having friends with a baby either at baseline or 24 months. Stevens-Simon *et al* (1997, 2001) reported poor social support was a predictor of the timing of subsequent pregnancy, only when combined with other background demographic and psychosocial risk factors. This variable was not associated with subsequent pregnancy in the study by Cox *et al* (2012). Overall, it is difficult to draw any conclusions about the effect of peer variables from the limited number of studies available.

6.3.9 Maternal experience

There was little support for an association between maternal variables (relating to the teenage mother) and subsequent pregnancy in the few identified studies which explored this. Gillmore *et al* (1997) reported that childrearing experiences (for example how the young women felt about being a parent) assessed at the postpartum interview were not associated with subsequent pregnancy. Being a single mother and/or primary caregiver was also not linked to subsequent pregnancy in two studies (Coard *et al*, 2000; Falk *et al*, 2006).

In relation to having more than one child as a teenager, Black *et al* (2006b) found that parenting satisfaction and parenting efficacy were not associated with

subsequent pregnancy at baseline or the 24 month follow-up. However, Manlove *et al* (2000) reported that if the father of the first child helped with childcare, a teenage mother was more likely to have a second birth within 24 months. The same authors found that whether a teenager's parents helped with childcare was not significantly associated with an increased likelihood of having a second birth. In summary, maternal experience does not appear to strongly influence subsequent pregnancy in the studies reviewed regardless of outcome. Further research in this area is warranted.

6.3.10 Contraception

Unintended subsequent teenage pregnancy is the outcome of sexual behaviour and ineffective or absent contraceptive use. Several studies have explored contraceptive plans and behaviour postpartum and post-abortion, including whether different methods of contraception are more effective than others.

LARC

The role of different methods of long-acting reversible contraception (LARC) in preventing subsequent pregnancy among teenage mothers has been explored in thirteen studies. All reported much lower rates of subsequent pregnancy among those young women using a LARC method. Follow-up points in these studies ranged from 6 months to 36 months. Three studies reported that use of any LARC method decreased the odds of having a subsequent pregnancy compared to using other methods of contraception or using no method at all at 18-24 months (Lewis *et al*, 2010a; Raneri & Wiemann, 2007; Waggoner *et al*, 2012). However, the study by Waggner *et al* (2012) was rated as moderate quality due to potential selection bias and unclear reporting.

Seven studies found that contraceptive implant use decreased the likelihood of subsequent teenage pregnancy (Coard *et al*, 2000; Han *et al*, 2014; Polaneczky *et al*, 1994; Stevens-Simon *et al*, 1996a, 1999, 2001; Tocce *et al*, 2012). For example,

while participants did not differ significantly in terms of sexual activity in the study by Polaneczky *et al* (1994), those who chose Norplant (contraceptive implant) were much less likely to have a subsequent pregnancy by 10 months than those who chose oral contraceptives (2% vs. 38%). At this follow-up point, 95% of the contraceptive implant group and 33% of the oral contraceptive pill group were still continuing with their chosen method. Two of these studies specifically looked at the effect of the immediate postpartum insertion of the contraceptive implant. Tocce *et al* (2012) reported that not receiving immediate postpartum implant insertion was a significant predictor of subsequent pregnancy. Only 2.6% of teenage mothers who received the contraceptive implant became pregnant by 12 months, compared with 18.6% in the control group who chose no contraception or any other form of user-dependent contraception. The continuation rate of the contraceptive implant was 86.3% after one year. In this prospective observational study, Han *et al* (2014) compared teenagers who had chosen the immediate postpartum insertion of the contraceptive implant (either received before discharge from hospital or 4 weeks after delivery if there was a lack of provider availability) with those who received standard contraception (no contraception, condoms, combined contraceptive pill, patch or ring, progestin-only pill or injection). Subsequent pregnancy rates were consistently higher in the standard contraception group at the 6, 12, 24 and 36 month follow-up points (9.9%, 20.1%, 46.5% and 83.7%) compared with the implant group (0%, 2.6%, 8.1% and 17.7%). The rate of implant continuation markedly declined from 97% at 6 months to 65% at 24 months.

Three studies found that use of the contraceptive injection postpartum decreased rates of subsequent pregnancy (O'Dell *et al*, 1998; Templeman *et al*, 2000; Thurman *et al*, 2007). However, it can be seen that the rate of subsequent pregnancy between these two studies varies among contraceptive injection users. Templeman *et al* (2000) found that those young women who opted for the contraceptive injection compared with those who chose oral contraceptives, were significantly less likely to have a subsequent pregnancy by 12 months

postpartum (2.6% vs. 24%). While Thurman *et al* (2007) undertook a prospective study exploring subsequent pregnancy rates within 12 months of delivery among young women who choose either the contraceptive pill, contraceptive patch or contraceptive injection. This found that those teenage mothers who chose the contraceptive injection were significantly less likely to become pregnant again within the follow-up period (14.2% among contraceptive injections users, 29.7% among oral contraceptive pill users and 31.8% among contraceptive patch users). Finally, O'Dell *et al* (1998) found that the percent of young mothers who had a subsequent pregnancy at 15 months postpartum was 15% among those using the contraceptive injection and 36% among those using an oral contraceptive pill. Rates of discontinuation were similar at 12 months although the oral contraceptive group were likely to be discontinued sooner. Experience of side effects was significantly higher among the contraceptive injection group.

Looking at outcomes of contraceptive use among teenagers after delivery or abortion, Blumenthal *et al* (1994) found that young women who chose the contraceptive implant were significantly less likely to have a subsequent pregnancy within 12 months compared with young women who chose no method or another method (oral contraception or condoms) (16% Norplant vs. 41% other). Discontinuation rates were much higher after one year among oral contraceptive users than implant users (47% vs. 16%). The same study reported a significant relationship between reason for discontinuing a method ('forgot to use' and 'side effects') and subsequent pregnancy, although the first of these is method dependent.

No or inconsistent use of contraception

Nine studies found a positive association between no or inconsistent contraceptive use and subsequent pregnancy among teenage mothers (Barnet *et al*, 2008; Cox *et al*, 2012; Coard *et al*, 2000; Ford, 1983; Gillmore *et al*, 1997; Gray *et al*, 2006; Peabody *et al*, 1981; Stevens-Simon *et al*, 1997, 2001). There was large variation between the studies in terms of design, the sample sizes and makeup,

the years the studies were undertaken, quality assessment scores and follow-up periods. This made comparisons difficult. For example, using data from the NSFG, Ford (1983) reported that irrespective of marital or socioeconomic status, subsequent pregnancies by 12 months postpartum were more likely to occur among sexually active young mothers not using a contraceptive method. In a prospective cohort study of subsequent pregnancy among teenagers by 18 months postpartum, Gillmore *et al* (1997) found frequency of contraceptive use was an important independent predictor – with lower use leading to increases in subsequent pregnancy. Meanwhile, using a non-comparator design, Coard *et al* (2000) found that teenage mothers who used their chosen contraceptive method consistently in the early postpartum period (1-16 weeks) were less likely to have a subsequent pregnancy by 24 months than those with inconsistent or no use.

Three studies reported no association between method of contraception or frequency of use and subsequent pregnancy (Maynard & Rangarajan, 1994; Crittenden *et al*, 2009, Lewis *et al*, 2010). All scored four stars on the MMAT quality assessment and there appeared little evidence of bias or error, although one possible confounder is that use of contraception may vary depending on whether the young women were in sexual relationships. Moreover, some of these studies used data collected at baseline to predict subsequent pregnancy. Users of oral contraception or condoms are likely to switch methods or may use more than one method and little information was provided on this. For example, Crittenden *et al* (2009) found frequency of birth control use since start of pregnancy risk (ranging on a 5-point scale from 'once in while' to 'every time') was not significantly associated with a subsequent pregnancy within 24 months. Meanwhile, Lewis *et al*'s (2010a) findings related to not using contraception at first conception.

Contraceptive behaviour was only explored in a very limited number of studies looking at subsequent childbearing or following any previous pregnancy outcome, and so it is difficult to draw any conclusions from these.

Hospital dispensed contraception

Three studies looked at whether contraception provided at the time of birth reduced subsequent pregnancy and none of these reported an association. The methods of contraception provided were not described in one of these studies (Covington *et al*, 1991), and in the remaining two over 50% were given oral contraception (Falk *et al*, 2006; Katz *et al*, 2011). Neither specifically stated that the remaining young mothers were using LARC methods.

In summary, there is strong evidence of the impact of using LARC methods on reduced rates of subsequent pregnancy up to two years postpartum; particularly when provided immediately following delivery or an abortion. While perhaps unsurprisingly, no or inconsistent use of other methods of contraception increases a young woman's chances of having a subsequent pregnancy.

6.3.11 Summary

This scoping review has looked at the breath of literature on factors associated with subsequent teenage pregnancy to try and tease out those mostly likely to predict which young women will become pregnant again. Given that some of the studies were of varying quality it is difficult to synthesise and interpret the results. In an attempt to provide some assistance with this, Table 11 below summarises the key factors found to be associated with subsequent teenage pregnancy and subsequent teenage childbearing in at least two multivariate analyses and rejected by no more than one multivariate analysis. It has been indicated where a study which helped to fulfil this criteria scored one star or lower on the MMAT quality assessment or where this included a study which reported on risk factors that together predicted subsequent pregnancy but not alone.

Table 11: Factors supported by at least two multivariate analyses and rejected by no more than one

Subsequent pregnancy teenage mothers		Subsequent childbearing teenage mothers	
Associated	**Rejected**	**Associated**	**Rejected**
• LARC use • Intended/ desired subsequent pregnancy • Time at risk • Poorer mental health • Aggressive behaviour • Married/committed/live together • Friends pregnant/teen mothers	• Age at first conception • First pregnancy intended • Previous pregnancy (none specified) • Previous abortion • Substance use (drugs/alcohol) • Sexual abuse/coercion • Daughter of teenage mother • Less educated mother and/or father	• Minority race/ ethnicity • Younger maternal age • First pregnancy intended • School dropout • Not living with parents/ mother in household	• Religious beliefs • Socioeconomic status • Large family
• Continued sexual activity postpartum[b] • Previous miscarriage[a] • Future education or career goals[a] • Behavioural problems school[a] • New partner[a] • Older partner[a] • Larger family [a] • Poor social support[a]	• Socio-emotional state[b]		• Future career aspirations[b]

a) Including one or more studies which looked at the effect of multiple risk factors b) Including one or more studies which scored one star or less on the quality rating.

There are two key findings from this part of the scoping review: (1) use of LARC methods was the only variable unanimously associated with a reduced risk of subsequent pregnancy in multiple studies, and: (2) there is an absence of research specifically looking at the factors associated with subsequent pregnancy among young women who have an abortion. Indeed, there was also limited evidence looking at pregnancies following any first-pregnancy outcome. However, confounding the assessment of factors associated with subsequent pregnancy was the fact that many of the studies included in this scoping review did not specifically focus on first-time pregnancies.

Aside from the association between LARC use and a reduction in the incidence of subsequent teenage pregnancy, the findings from the review were largely inconclusive. This was either because the evidence was conflicting or data were

sparse for many of the other risk factors. It is likely because most teenagers have multiple characteristics which increase the likelihood that they will have more than one pregnancy. Other factors included pregnancy intentions, time at risk, poorer mental health, aggressive behaviour, being in a married, committed or cohabiting relationship and the social norm effect of friends who are also pregnant or teenage mothers. For subsequent childbearing, ethnicity (which may be less relevant in a UK context), younger maternal age, having an intended first pregnancy and not living with a least one parent appeared to be associated. Further research is needed with methodological improvement, longer follow-up periods, appropriate comparison groups, additional variables of interest, more diverse samples, multivariate statistics and undertaken within a UK context. There is also an apparent lack of research looking at risk factors for young people who become pregnant following an abortion, which needs to be addressed.

6.4 Experiences of subsequent teenage pregnancy

This section explores what is known about the experiences of young women who have more than one pregnancy. Nine in-depth qualitative studies were identified which looked at the circumstances and motivations of previously pregnant young women towards subsequent pregnancy. The aim was to gain a better understanding of the complexity of these young women's lives. Two of these studies were from the UK (Clarke, 2010; Hoggart *et al*, 2010) and the remaining eight were from the US. These main themes in these studies included pregnancy intentions, contraceptive use, perceptions of risk and contextual factors.

6.4.1 Pregnancy intentions

A key feature was that while young women did not necessarily intend on becoming pregnant following a previous pregnancy, many did not try to fully prevent pregnancy either (Conroy, 2015; Herrman, 2007). Some young women reported positive experiences of motherhood and were perhaps ambivalent about avoiding further pregnancy or wanted to have another child (Herrman,

2006). However, for others it could perpetuate negative feelings and destructive behaviours (Conroy, 2015).

Subsequent pregnancy was also sometimes intended. Once young women had become mothers they may consider it appropriate to complete their families while they were still young. They felt they wanted to provide their child with siblings or that this would allow them to go back to education or work after they were done. Clarke (2010) referred to this as a 'reverse life-course rationalisation' approach. It has also been suggested that some mothers' pregnancy decision-making might be influenced by a partner or, conversely, they wanted a baby to extort a commitment from a partner (Herrman, 2007).

Other young women may want to become pregnant to replace a pregnancy loss. Clarke (2010) referred to these as 'apparent losses', which occurred after a miscarriage, stillbirth or abortion (especially when this decision has been influenced by others). This experience could leave a young woman feeling isolated and empty, and therefore she may want to become pregnant again. This theme was also identified by Hoggart *et al* (2010). Thus, subsequent teenage pregnancy involved emotional processes and there were often "masked and hidden motivations" underlying sexual behaviour (Clarke, 2010, p.198).

6.4.2 Contraceptive use

Smith *et al* (2013) suggested that regardless of the pregnancy outcome (i.e. birth or an abortion), young women's post-pregnancy contraceptive behaviour will be influenced by pregnancy intentions, perceptions of pregnancy risk, and personal responsibility over contraceptive use. However, even those young women who express a clear intention to prevent subsequent pregnancy may encounter practical and situational challenges. A few qualitative studies have looked at barriers to contraception use among teenage mothers. The primary reasons given for inconsistent or no use, or discontinuing use were: perceived side effects (Herrman, 2007; Templeman, 2000), perceived invincibility to pregnancy, seeing

contraception as a hassle, being coerced into not using contraception, believing breastfeeding offers protection against pregnancy (Herrman, 2007), forgetting to take contraception (Herrman, 2007; Templeman, 2000), not planning on having sex (Herrman, 2007) or difficulties attending appointments for contraception (Conroy *et al*, 2015). Indeed, Hermann (2007) argued that the findings suggest that "much of teen sexual activity was typically spontaneous, unplanned and sometime involuntary" (p.93).

Wilson (2011) found that young women were more likely to opt for LARC methods of contraception postpartum. It was suggested that pregnancy had been a fertility 'wake-up call' for some teenage mothers. Moreover, after having experienced being a mother, most of the teenagers did not think they could cope with a second child. Others said that their contraceptive knowledge, support and access had improved after delivery; although there still appeared to be limited knowledge in relation to the different LARC methods and others had misconceptions about side effects or consequences. Increased access often did not continue for long after delivery, and there were high levels of contraceptive method switching reported.

6.4.3 Perceptions of fertility

Perception of fertility was a powerful theme in some of the studies. In contrast to the 'wake-up call' that motherhood had provided some young women in Wilson's (2011) study, Hoggart *et al* (2010) found that following an abortion, some young women maintained that this could make them subfertile. Consequently, this could influence future contraceptive risk-taking and the young women's desire to see if they could get pregnant again. Hermann (2007) also found that a perceived invincibility to pregnancy could lead young mothers to have unsafe sex.

6.4.4 Contextual factors

Many of these studies suggested that young women who experienced a subsequent pregnancy tended to face a range of challenges and felt less in control

of their lives (Conroy *et al*, 2015; Hoggart *et al*, 2010). Key informants in the study by Hoggart also suggested that some young women were ambivalent about their lives and goals. These contextual factors could make it more difficult for the young women to establish an effective contraceptive regime following a birth or an abortion.

Overall, the qualitative synthesis highlighted a lack of research specifically focusing on young women's experiences of pregnancy following an abortion or the influences on their sexual and contraceptive decision-making.

6.5 Delaying or preventing subsequent teenage pregnancies

Interventions designed to delay or prevent subsequent teenage pregnancy are varied. Some of these are comprehensive, meaning that they have the input of a multidisciplinary team to address sexual health and other wellbeing needs, while others are more targeted, such as the provision of contraception, sexual health and fertility education, building skills to enable young women to take control of their own lives. These can be provided in a range of settings (clinical, schools, community, home visiting) and have primarily been focused at teenage mothers. It is beyond the scope of this thesis to review the extensive literature on interventions designed to delay or prevent subsequent teenage pregnancy, so findings from four review studies will now be discussed instead.

In the earliest of these studies, Klerman (2004) undertook a narrative review which examined the impact of interventions designed to prevent additional pregnancies or births to teenage mothers between 1970 and 2002. Nineteen experimental or quasi-experimental studies met the inclusion criteria. These interventions included multi-agency comprehensive support (six studies), medical setting based (four studies), school based (three studies), home visiting (three studies), contraceptive implant (two studies) and other (one study). Looking at the effect on subsequent pregnancy and birth rates, Klerman concluded that the results were mixed, with around half demonstrating a reduction in rates and no

one approach appearing preferable to another. Only three of the studies demonstrating a positive effect were based on randomised control designs, and subsequent pregnancy and birth rates were still high. By the two-year follow-up period, the majority of studies did not reduce the subsequent pregnancy rate, which remained around 20-25% - comparable to that observed in the young women not receiving a targeted intervention. There were a number of limitations with this review; not least, that many of the individual studies were carried out before newer methods of long-acting contraception were more widely available. Corcoran and Pillai (2007) also criticised the study because it does not take into account the sample size or the size of effect between the intervention and comparison and/or control group.

To address this gap, Corcoran and Pillai carried out a meta-analysis of 16 intervention studies with a comparison and/or control group looking to prevent secondary pregnancies and births in the US. They found that no one approach appeared to be more effective than another. The interventions involved education, contraception (including emergency contraception provision), family planning services, incentives and home-visits. Six of the interventions were described as comprehensive. Ten studies involved a randomised design and six non-randomised; although there can be challenges randomising designs of contraceptive provision when methods are already readily available. Three of the studies reported higher odds of subsequent pregnancy in the intervention group compared with the control group (Kelsey *et al,* 2001; Stevens-Simon *et al*, 1997; Quint *et al,* 1997) and the rest indicated a reduced rate over a follow-up period of approximately 19 months. Across the studies there was a 50% reduction in the odds of having a subsequent pregnancy in respect to the comparison/control conditions, although the effect had disappeared by 31 months for studies with a longer follow-up period. In some cases the effect size was minimal and could be attributed to sampling error. Indeed, in 10 out of the 16 papers the reduction in subsequent pregnancy was not statistically significant. The more successful

interventions involved provision of the contraceptive implant, a school-based clinic programme, comprehensive support and education sessions.

The meta-analysis indicated that the effectiveness of interventions to prevent subsequent pregnancy appeared to be more effective among low socioeconomic status teenagers. This also showed that those studies with higher quality scores were less likely to show an effect, raising questions about the internal validity of those studies with lower quality scores. All but one of the studies reporting a significant effect had a quality score ranging from 3 – 5 out of a possible 9 points, with 9 being the highest quality. This study had some limitations including the exclusion of interventions without a comparison or control groups and exclusion of studies where key information was not routinely reported. Moreover, issues with the individual studies reviewed persisted, including small sample sizes, high reported attrition rates and variation in the duration of intervention across projects.

Whitaker et al (2016) undertook a systematic review of the effectiveness and cost-effectiveness of interventions to reduce subsequent unintended teenage pregnancies. Using Effective Practice and Organisation of Care criteria, 12 RCTs published between 1996 and 2012, were included in the principal analysis. There were two main intervention types these studies evaluated: emergency contraception (1 study) and complex interventions (11 studies). The complex interventions comprised of six home-based psychosocial interventions, two group-based interventions and one telephone-based intervention. Meta-analyses were carried out on the six trials of home-based psychosocial interventions and four studies which looked at subsequent births. When pooled, the effects were significant in these meta-analyses but individually none of the studies showed a significant decrease in subsequent pregnancy or subsequent childbearing rates. Part of the challenge was the inconsistent measurement and reporting of outcome variables in the primary studies reviewed. The authors therefore concluded that there was little useful evidence about which interventions might

help teenage mothers the most. However, further sensitivity analysis using additional sources of effectiveness revealed that home-based psychosocial visits may be potentially effective. The reasons suggested for this were that repeat home visits by a healthcare professional can help to:

- Support and encourage life choices, and the perception that the young women have life choices
- Sustain behaviour change through ongoing support
- Reduce barriers to accessing services
- Engage family members and partners
- Foster the development of resilience and self-efficacy

Lastly, in a review of the effects of LARC on subsequent pregnancies in teenagers, Baldwin and Edelaman (2013) reported that not using LARC methods post-partum or post-abortion increased a young woman's risk of subsequent pregnancy by up to 35 times more than those who use other methods of contraception, including no method at all. The authors suggested that the optimal time for commencing LARC was immediately following delivery or abortion. However, they highlight a number of barriers to the increased uptake and continuation of LARC, including young women's own concerns about safety, tolerability and acceptability, provider availability and some healthcare professionals' concerns about the use of LARC by teenagers.

In summary, there has been variable and only moderate success of interventions designed to delay or reduce subsequent teenage pregnancy. Meaningful comparisons among studies were difficult due to methodological challenges in study designs and unclear descriptions of the programme implementation. Tentatively the evidence appears to suggest that the promotion of LARC methods, along with ongoing home-based psychosocial support, may help young women to better manage their fertility.

6.6 Summary

There appears little agreement on which factors best predict subsequent teenage pregnancy in the studies reviewed and it is likely that most teenagers have multiple characteristics which increase the likelihood that they will become pregnant again – so perhaps all pregnant teenagers should be seen as a risk group for further pregnancies.

Few qualitative studies have explored the experiences of those young women who have more than one pregnancy, and those that do suggest these are complex and varied. Past experiences, pregnancy intentions, contraceptive choices and barriers to use, perceptions of pregnancy risk, and the contexts of the young women's lives were all implied in these accounts. However, this again, is an area that clearly warrants further research. Furthermore, in terms of interventions to reduce or delay subsequent pregnancies, few have been able to effectively document decreases in this population. What has emerged from these studies is a better understanding of the core components which provide a framework for a successful intervention. It must also be recognised that whilst some subsequent pregnancies may be unplanned, others are intended, and some young women may be unclear about their pregnancy intentions. As such, these women may have different support needs at different times in their lives and should be engaged and empowered to know that they can manage their fertility and make choices. Further research is required into the determinates of subsequent teenage pregnancy to address current methodological challenges and ensure findings are relevant to the UK context. It is also apparent that young women who become pregnant following an abortion have largely been overlooked in the literature.

Chapter 7: Current challenges of using routinely collect data to identify trends and patterns of subsequent teenage pregnancies in England and Wales

There are currently no annually published data for *all* subsequent teenage pregnancies in England and Wales. While abortion data published by the Department of Health (DH) present information on prior history of pregnancy, the accuracy of this information depends on a woman's willingness to disclose her previous pregnancies and the completeness of abortion provider records, which may not include details of pregnancies managed by a different hospital or clinic (Gbolade, 2000). Since 2013, the Office of National Statistics (ONS) has published data on the number of previous children from all mothers at birth registration, but this does not capture previous pregnancies that ended in abortion or miscarriage (see Chapter 3).

In order to move closer to identifying the level of subsequent teenage pregnancy in England and Wales, this thesis originally aimed to present findings from the analysis of a new dataset, linking information from abortion notification forms with birth registration forms. However, after completing quality and coverage checks on the linked data, issues likely associated with the high rate of mobility in this population of young women were found, resulting in a low match rate. Consequently, this chapter now focuses on the challenges of identifying the proportion of teenagers who have more than one pregnancy in England and Wales and the patterns of these according to pregnancy outcome. It describes the various different methods which were considered and their limitations, before presenting some data from the new linked dataset to highlight the poor match quality and what might be done with additional time to improve this. Finally, it considers deficiencies in the collection and recording systems for abortion data in England and Wales and potential ways forward to help routinely monitor subsequent pregnancies in young women.

7.1 Approaches to identifying subsequent teenage pregnancies in England and Wales

The second research question in this thesis, asked '**What are the occurrences and patterns of subsequent teenage pregnancies in England and Wales?'**. Population-level data on births and abortions in England and Wales are captured in various datasets held by different organisations, as illustrated in Table 12 below. This section will discuss the strengths and limitations of each of these datasets, and why they were rejected as potential methods for answering the quantitative research question. It will then describe the unique data linkage study which was designed for this thesis, matching Department of Health abortion data with ONS birth data.

Table 12: Data sources for birth, abortion and conception data in England and Wales

	Birth/ maternity data	**Abortion data**	**Conception data**
Office of National Statistics	Publish annual statistics on **Births in England and Wales** based on registrations provided by the General Register Office (GRO). These data are supplemented with linked data from NHS birth notifications. As it is a legal requirement to record all births under the Births and Deaths Registration Act (1953), this is the most complete and best data source.		Publish annual statistics on **Conceptions in England and Wales** by bringing together birth registration data, with abortion notification data. These include all pregnancies to women usually resident in England and Wales which either lead to a maternity (where one or more live births or still births occur) or an abortion.
Department of Health		Publish annual **Abortion Statistics for England and Wales** using data from abortion notification forms. As it is a legal requirement to record all abortions under the Abortion Act (1967), amended by the Human Fertilisation and Embryology Act (1990), this is the most complete and best data source.	

Table 12 continued: Data sources for birth, abortion and conception data in England and Wales

	Birth/ maternity data	Abortion data	Conception data
Secondary care	Hospital Episode Statistics (HES) are data collected at the time a patient is in hospital. The Health and Social Care Information Centre (HSCIC) publish **NHS Maternity Statistics** which include provider level information on all births taking place in NHS hospitals (in England). This excludes home births and those taking place in independent sector hospitals.	Hospital Episode Statistics (HES) capture information on abortions carried out in NHS hospitals. This excludes abortions which take place in independent sector clinics. These data are not routinely published.	
Primary care	Birth data can be obtained through general practitioners (GP) records. There are various research databases which allow access to these data for research purposes: • Health Improvement Network (THIN) database • Clinical Practice Research Datalink (CPRD) (formerly the UK General Practice Research Database (GPRD)) • QResearch	Abortion data can be obtained through general practitioners (GP) records. The reliability of these data is less accurate than birth data as many abortions take place in independent sector clinics and they are not required to notify GPs. • Health Improvement Network (THIN) database • Clinical Practice Research Datalink (CPRD) (formerly the UK General Practice Research Database (GPRD)) • QResearch	
National surveys			The British National Surveys of Sexual Attitudes and Lifestyles **(Natsal)** is carried out every 10-years to collect specific information on the sexual behaviour of men and women aged 16-74 years, resident in Britain (England, Wales and Scotland).

It should be noted that there were variable costs associated with accessing data from each of these different sources.

7.1.1 QResearch

QResearch (www.qresearch.org) is a longitudinal dataset of primary care health records using the EMIS Health clinical computer system. An initial approach was made to see if these data could be used to identify patterns of subsequent teenage pregnancies by pregnancy outcome. However, the QResearch team did not think that the dataset would provide reliable data on pregnancies because midwives use SystmOne (an alternative clinical computer system used by general

practices in the UK) and recording by practices may not be consistent. In addition, women have the right to confidentiality when seeking an abortion in England and Wales. Abortion providers are not required to inform a woman's general practitioner (GP), and so if she was referred through a sexual health clinic or self-referred then the abortion may not appear on her GP medical records (Devine *et al*, 2010).

7.1.2 The Health Improvement Network (THIN) database

THIN (http://csdmruk.cegedim.com) is one of the largest UK databases containing anonymised electronic health records for patients who have received care from a GP. It covers approximately 6% of the UK population and is broadly representative in terms of age, sex, and geographic distribution. THIN data are coded using the NHS's standard Read code classification system.

Identifying pregnancies in electronic medical records can be challenging as multiple codes are suggestive of pregnancy. Those which may be useful in determining pregnancy can be divided into three broad categories: (1) last menstrual period code (indicating conception); (2) pregnancy outcome codes (relating to whether the pregnancy resulted in a live birth, stillbirth, miscarriage, abortion less than 24 weeks, abortion equal to or greater than 24 weeks, other including ectopic pregnancy); and (3) pregnancy care codes (relating to the care of pregnancy such as prenatal visits). In a study looking at the latter two coding subsets, 2750 potential codes were identified which were suggestive of pregnancy, including 1059 pregnancy outcome codes and 1691 pregnancy care codes (Devine *et al*, 2010). Over 2500 other codes were excluded for either being too non-specific or relating to post-natal care. Using this information, Devine *et al* developed an algorithm to identify pregnancy outcomes in the UK General Research Practice Database (GRPD) (this is now known as the Clinical Practice Research Datalink and is similar in structure and content to THIN). The algorithm built on methods proposed by Hardy *et al* (2004) and Manson *et al* (2001).

However, a limitation of these previous approaches was how they identified the beginning of a pregnancy, which was to look back over a set number of days from the outcome. This is less effective when looking at abortions, miscarriages and pre-term births and can result in overlaps between pregnancy events (Delvine *et al*, 2010). Instead, Delvine *et al* used a variable day approach from the first pregnancy-care marker to overcome this problem. Other studies have used last menstrual period as a marker of conception (Cea-Soriano *et al*, 2013) but this information is not always recorded and therefore estimates from pregnancy outcome or pregnancy care codes must be made.

There are a number of limitations to identifying pregnancies within GP medical records, particularly elective abortions. In the study by Devine *et al* (2010) 15.0% of the pregnancies identified between January 1987 and Dec 2006 were abortions[19]. However, published conceptions statistics from 1991-2006 (when this information is available from), showed that the average abortion ratio was 21.4% over this time period (DH abortion statistics 1991, 2007). One reason for this slightly lower rate of abortion relates to an issue also raised by the QResearch data. Abortion providers are not required to inform GPs when a woman has an abortion. Furthermore, in the study by Cea-Sorino *et al* (2013) looking at the use of electronic medical records to study medications in pregnancy, abortion data were more prone to false positives (e.g. coding errors, coding of historical abortions) and false negatives (omission of recording) as very little information other than the event itself is recorded. Because of this, it can also be difficult to determine when conception occurred and the duration of the pregnancy (Petersen *et al*, 2016). Another issue is that young women may move medical practices and information on previous pregnancies which occurred before then may be incomplete (*ibid*). A final point is that maternity care is provided by several different NHS services, including GPs, midwifes, hospitals and other specialists. It

[19] This calculation excludes miscarriages as these are not included in annual conception statistics.

is therefore possible that some women may be missed on GP medical records, although most women will involve primary care at some stage of their pregnancy.

7.1.3 Hospital Episode Statistics

The possibility of using national Hospital Episode Statistics (HES) (http://www.hscic.gov.uk/hes) was also explored. HES are compiled from data on admissions, outpatient appointments and accident and emergency (A&E) attendances at NHS hospitals in England. This dataset would therefore be able to provide information on abortions undertaken in NHS hospitals and deliveries linked to age, International Classification of Diseases (ICD-10) and OPCS-4 classification codes for outcomes. It is also possible to track the same unique individual (anonymised) across different years in the HES dataset from 1997 onwards. However, the majority of abortions now occur outside of a hospital setting so would not be included in HES data. In 2013, for example, just over a third (36.6%) of abortions to young women under-20 took place in an NHS hospital (DH, 2014).

Table 13: Legal abortions, by purchaser and age, residents of England and Wales 2013

	All ages		**Under 20**	
All legal abortions	**Number**	**%**	**Number**	%
(i) Purchaser				
Total	185,331	100	29,011	100
NHS funded: NHS Hospital	62,195	33.6	10,612	36.6
NHS funded: Independent clinic	118,711	64.0	18,159	62.6
Privately funded	4,425	2.4	240	0.8

7.1.4 Population-based survey

It was also considered whether an existing population-based survey, such as the British National Surveys of Sexual Attitudes and Lifestyles (Natsal), might be able to provide information on previous pregnancies among young women. However, given the number of young women who have more than one pregnancy, it was unlikely that the sample size of 15,000 men and women aged 16-74 years would produce meaningful results when disaggregated to this level. The findings are also reliant on self-reported data. Designing a longitudinal cohort study would be difficult because of the numbers involved and the timescale for a PhD thesis.

7.1.5 A new uniquely linked dataset combining abortion and birth records

Given that the quality of abortion data had been the primary issue with the patient record-based datasets considered, it was decided to approach the Department of Health Abortion Statistics Manager to discuss possible ways to identify subsequent teenage pregnancies. One thought behind doing so was that it might be possible to link together HES maternity and Department of Health abortion data using NHS number. In England and Wales, the Chief Medical Officer must be notified of every legal abortion, within the terms of the Abortion Action 1967, amended by the Human Fertilisation and Embryology Act (1990), using an abortion notification form (HSA4). The resulting data are used by the Department of Health to produce annual abortion statistics and is regarded as providing the most complete record of abortions.

Changes to the HSA4 form in 2001 require the practitioner terminating the pregnancy to include either patient name *or* patient reference (patient's hospital *or* clinic number *or* NHS number). The Department of Health encourages practitioners to use a patient reference to protect patient confidentiality. However, neither the patient name nor patient reference is recorded on the electronic dataset; it is only recorded whether these are present (TRUE/FALSE). The reason for this is that while the Abortion Act 1967 requires the Department

of Health to collect name or reference on the HSA4 form in its role of monitoring the Abortion Act, these patient identifiers are not required to produce annual abortion statistics and data protection policy stipulates that only the minimum amount of information needed for this purpose should be collected. Even if the Department of Health did record patient identifiers, these would not be consistent for all records. For example, independent providers rarely collect NHS number for their patients. It is also not possible to retrospectively include this information on the electronic dataset, as for security reasons the Department of Health keeps the scanned image of the HSA4 form for three years. In short, the lack of a unique personal identifier on the abortion records, especially NHS number, would make it harder to link Department of Health abortion data with NHS maternity data, and other personal identifiers, such as the young woman's date of birth and full postcode at the time of pregnancy outcome, would need to be used instead.

NHS maternity data do not include births which take place in non-NHS settings or at home and therefore this provides a less complete picture of pregnancies leading to birth. These data are also more likely to include recording errors or be incomplete. It was therefore suggested by the Department of Health Abortion Statistics Manager that it may be possible to link abortion notification data with more complete ONS birth data (this is described in further detail in *Chapter 5: Methodology*) in order to identify teenagers who have been pregnant previously. However, using sociodemographic variables, such as the young women's date of birth and full postcode at pregnancy outcome, to link the two datasets presents a number of issues:

- **It will miss matched cases where an individual has moved home between pregnancy outcomes.** According to the 2011 Census, around 6.8 million residents (11%) in the UK were internal migrants, meaning that they moved from one UK address to a different address within the last year (ONS, 2014d). A further 687,200 (1.1%) lived outside the UK one year

previously (*ibid*). Individuals become more transitory in certain stages of their lives, with young women aged 16 and over likely to leave home, go to college, university and work.

- **The figures will miss cases where a match should have been made, but date of birth or postcode information was recorded incorrectly, or was missing.** Robust data quality checks are carried out on both abortion notification and birth registration data. However, on occasion data are incomplete or incorrect.
- **There still may be false matches.** The linked records are given a MatchingID and it is assumed that the linked records relate to the same person. This of course also assumes that the records do not relate to twins or two unrelated people with the same birthday, living in the same postcode area.

A further issue with looking at previous pregnancies in any dataset relates to the time period selected for analysis. For example, in this study a 10-year period from 2004-2013 was chosen. The number of years you can 'follow-back' an individual's pregnancy history will reduce with each year. So a young women aged 19 who conceived in 2013 could be theoretically tracked back to the age of 9, but for a young women aged 19 who conceived in 2006 it would only be possible to find pregnancies she had from the age of 16. This means that only data for the most recent years in any time-limited dataset will cover *all* the fertile years in which a young woman may have conceived. Those aged 18-19 in the earlier years of the new dataset therefore cannot be tracked for previous pregnancies. This issue is unavoidable, no matter what time period is used.

7.2 Linking birth and abortion data: purpose, quality and coverage

Having considered the potential data quality and integrity of the various different ways to identify teenagers who have more than one pregnancy in England and Wales, along with practical issues such as data structure and costs, it was decided

to create a new dataset by linking national administrative data on births (ONS) and abortions (Department of Health) at an individual level. Access to the data was reviewed by an NHS Research Ethics Committee and also separate approvals were obtained from the Department of Health and ONS who are custodians of the data. The data linkage was undertaken by Department of Health to protect privacy and confidentiality. A MatchingID was created for each individual and this could be used to identify cases where matched data (using two linkage keys: a young woman's *date of birth* and *full postcode* at pregnancy outcome) had been found. Full details of the research methodology and the process for linking the data are provided in Chapter 5. The process was extremely time-consuming, with ethics approval gained 15th July 2014, Chief Medical Officer approval gained 31st July 2014, and ONS Microdata Release Panel approval gained 27th January 2015. The birth dataset was eventually released by the ONS to Department of Health on 13th May 2015 and the 10-year newly linked dataset was not received by the postgraduate research student at the University of East Anglia (UEA) until 3rd May 2016.

7.2.1 Data quality checks for matching

Secondary data analysis is widely used by researchers in quantitative research and now there is growing trend towards linking datasets together, as this has immense potential value for research and can be used to shape policy and services. However, the process can be complex and detailed. There were two stages of quality checks: (1) Do the data on births and abortions (unmatched) for England and Wales reflect that routinely which are published? (2) How consistent is the linked data with what is already known about the proportion of teenagers who have more than one pregnancy for England and Wales?

7.2.1.1 Differences between data in the new linked dataset and published figures

A data quality assessment was carried out on the newly linked dataset by comparing annual totals for births and abortions in the new dataset with published figures. As can be seen in Table 14 and Table 15 below, some differences were identified. There were 781,495 pregnancies ending in either birth or abortion to young women under-20[20] (based on report year at outcome) between 2004-2013 in the new linked dataset. This was 787,970 in published ONS birth and DH abortion statistics (based on report year at outcome). Therefore each of the data custodians was approached to explore reasons as to why this might be.

For the birth data, part of the difference was due to the extracted data including stillbirths, which published birth figures for women aged under-20 do not. With both the birth and abortion data, some of the difference may also have been due to the filters applied by the postgraduate researcher to restrict the data to age under-20 at outcome. Late registrations may also have had a small impact on the figures. A further filter was applied to the abortion data to restrict to England and Wales only.

[20] The reason why the data included young women aged under 20 at outcome rather than aged under-20 at conception is explained in Chapter 5.

Table 14: Difference between abortion data in the new linked dataset and published abortion statistics, 2004-2013

	Linked dataset	Published DH abortion data	Difference
2004	38,318	39,142	-824
2005	38,219	39,099	-880
2006	40,750	41,286	-536
2007	43,359	43,955	-596
2008	42,222	42,689	-467
2009	39,672	40,067	-395
2010	37,941	38,269	-328
2011	34,780	34,923	-143
2012	31,241	31,380	-139
2013	28,918	29,011	-93
2004 to 2013	**375,420**	**379,821**	**-4,401**

Table 15: Difference between birth data in the new linked dataset and published abortion statistics, 2004-2013

	Linked dataset	Published ONS birth data	Difference
2004	44337	45,094	-757
2005	43966	44,830	-864
2006	44707	45,509	-802
2007	44542	44,805	-263
2008	44614	44,691	-77
2009	43314	43,243	71
2010	40736	40,591	145
2011	36626	36,435	191
2012	33981	33,815	166
2013	29252	29,136	116
2004 to 2013	**406,075**	**408,149**	**-2,074**

By age

The age profile of young women was explored to see whether this conformed to the expected pattern i.e. the numbers of pregnancies increased with age. It can be seen in Table 16 that it does, with the least pregnancies occurring in young women aged under-14 and more than half occurring in young women aged 18-19. Therefore, no apparent errors in the age profile were identified.

Table 16: Age distribution (2004-2013 data combined)

Age	No.	%
Under 14	1,637	0.2
14	10,313	1.3
15	34,628	4.4
16	82,380	10.5
17	151,627	19.4
18	218,444	28.0
19	282,460	36.1

By deprivation

As explained in Chapter 5, various deprivation indices were included in the new linked dataset by assigning a ranked score to an individual's postcode. It is well established that teenagers who give birth are more likely to live in deprived areas, while those who choose to have an abortion are more likely to live in affluent areas. Exploratory analysis using logistic regression with each of the indices (Carstairs, Townsend, Index of Multiple Deprivation 2010, and Median Household Income) suggested that Median Household Income was the strongest predictor of outcome in the dataset and so quintiles were calculated. The data confirmed this trend (see Figure 18)

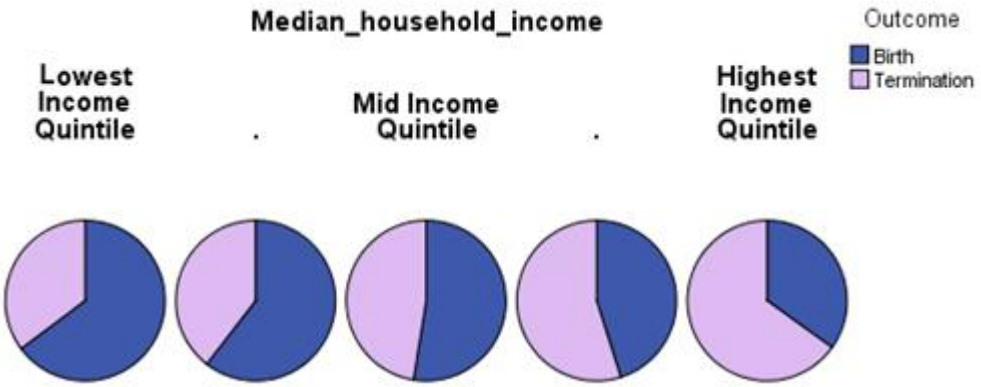
Table 17: Univariate logistic regression with pregnancy outcome as dependent variable

Age	Cox & Snell R Square	Nagelkerke R Square
Townsend 2001	0.006	0.008
Carstairs 2001	0.011	0.015
England IMD 2010	0.038	0.051
Median Household income	0.047	0.062

Table 18: Income quintiles for median household income

	n=	Lower value £	Upper value £
Lowest Income Quintile	146005	6,822	17,609
Moderate Low Quintile	146654	17,611	21,008
Mid Income Quintile	147045	21,009	24,890
Moderate High	147222	24,891	30,766
Highest Income Quintile	147612	30,770	90,148

Figure 8: Teenage pregnancies by household income quintile, combined data 2004-2013



7.2.2 Linking births and abortion using postcode and date of birth

A dataset was created in which each young woman was allocated a MatchingID. The number of times this MatchingID occurred in the dataset indicated the number of previous pregnancies assigned to that person by date of birth/postcode combination (exact match). Age at outcome was then used to assign a temporal relationship between those pregnancies associated with each MatchingID, so each pregnancy could be allocated a number relating to the order in which it occurred (1, 2, 3 etc.) 59,672 (7.6%) of young women with more than one pregnancy were identified from 2004-2013. It is not possible to report a match rate as such because some young women will only have one pregnancy. Therefore, not all records will have a match.

Table 19 shows the number of previous pregnancies by year and by outcome (birth/abortion). Firstly, it can be seen that in the earlier years the proportion of young women with a previous pregnancy was lower. This was explained in *Section 7.1.5*, as it was not possible to identify pregnancies which occurred prior to 2004 and so for older teenagers this meant some of their earlier reproductive years were excluded in the dataset. Secondly, the proportion of young women presenting with a previous pregnancy was lower for those presenting with a birth. This could mean two things; that previous pregnancies among young women having an abortion are higher than those who give birth and/or that young women who give birth are more likely to move out the family home or more frequently move address.

Table 19: Previous pregnancy among young women in England and Wales, by year, by birth, abortion and all

Year	Previous pregnancies	Birth		Abortion		All	
		No.	%	No.	%	No.	%
2004	0	44,323	100	35,417	92.4	79,740	96.5
	1	14	0.0	2,773	7.2	2,787	3.4
	2	0	0.0	124	0.3	124	0.2
	3 or more	0	0.0	4	0.0	4	0.0
	Total	44,377	100	38,318	100	82,655	100
2005	0	42,004	95.5	34,908	91.3	76,912	93.6
	1	1872	4.3	3,056	8.0	4,928	6.0
	2	89	0.2	240	0.6	329	0.4
	3 or more	1	0.0	15	0.0	16	0.0
	Total	43,966	100	38,219	100	82,185	100
2006	0	44,672	99.9	36,796	90.3	81,464	95.3
	1	33	0.1	3,556	8.7	3,589	4.2
	2	2	0.0	361	0.9	363	0.4
	3 or more	0	0.0	41	0.1	41	0.0
	Total	44,707	100	40,750	100	85,457	100
2007	0	42,107	94.5	39,153	90.3	81,260	92.4
	1	2,279	5.1	3,780	8.7	6,059	6.9
	2	149	0.3	369	0.9	518	0.6
	3 or more	7	0.0	57	0.1	64	0.1
	Total	44,542	100	43,359	100	87,901	100
2008	0	41,860	93.8	37,015	87.7	78,875	90.8
	1	2,561	5.7	4,616	10.9	7,177	8.3
	2	179	0.4	524	1.2	703	0.8
	3 or more	14	0.0	67	0.2	81	0.1
	Total	44,614	100	42,222	100	86,836	100
2009	0	40,460	93.4	34,662	87.4	75,122	90.5
	1	2,663	6.1	4,388	11.1	7,051	8.5
	2	171	0.4	546	1.4	717	0.9
	3 or more	20	.0	76	0.2	96	0.1
	Total	43,314	100	39,672	100	82,986	100
2010	0	37,959	93.2	32,950	86.8	70,909	90.1
	1	2,561	6.3	4,401	11.6	6,962	8.8
	2	200	.5	520	1.4	720	0.9
	3 or more	16	0	70	0.2	86	0.1
	Total	40,736	100	37,941	100	78,677	100
2011	0	33,963	92.7	30,143	86.7	64,106	89.9
	1	2,455	6.7	4,066	11.7	6,521	9.1
	2	183	0.5	505	1.5	688	1.0
	3 or more	25	0.0	66	0.2	91	0.1
	Total	36,626	100	34,780	100	71,406	100
2012	0	31,592	93.0	27,025	86.5	58,617	89.9
	1	2,193	6.5	3,662	11.7	5,855	9.0
	2	183	0.5	490	1.6	673	1.0
	3 or more	13	0.0	64	0.2	77	0.1
	Total	33,981	100	31,241	100	65,222	100
2013	0	29,234	99.9	25,584	88.5	54,818	94.2
	1	18	0.1	2,889	10.0	2,907	5.0
	2	0	0.0	394	1.4	394	0.7
	3 or more	0	0.0	51	0.2	51	0.1
	Total	29,252	100	28,918	100	58,170	100

It can also be seen that in three years (2004, 2006, 2013) the proportion of young women giving birth with a previous pregnancy in the dataset was exceptionally

low and likely due to a data error. The ONS was approached to try and identify what this might be but an answer was not received in time to be included in this thesis. Overall, the proportion of young women in the dataset that were identified as having more than one pregnancy was low and it provided a much less complete picture of the scale of subsequent teenage pregnancy than already indicated by current administrative data. As the 2013 data had a particularly low number of matches due to the birth data, data from 2012 will be used to illustrate this point.

In 2012 10.1% of the young women having a birth or abortion in the dataset had been pregnant at least once before. Among those young women who gave birth, 7.0% had had a previous pregnancy, while this was 13.5% for young women who had an abortion. In contrast, the ONS has published figures for previous live born children in young women under-20 for 2013 and 2014 which showed that:

- In 2013, 25.0% of young women aged under 20 who registered a birth had had a previous live birth (ONS, 2014a).

- In 2014, 24.3% of young women aged under 20 who registered a birth had had a previous live birth [21](ONS, 2015).

Unlike the data in the newly linked dataset, these figures do not include young women who had a previous abortion, so the overall proportion who had a previous pregnancy is likely to be higher. Using Department of Health abortion data, McDaid *et al* (2015) found that in 2013, 22.9% of young women aged under-20 presenting for an abortion had been pregnant at least once before. Again, these data are likely to be an underestimation of the proportion of previous pregnancies due to issues with self-reporting of abortions and accuracy of medical records in a healthcare system where abortions may be carried out by different

[21] It is possible that the previous children variable is not entirely accurate as the ONS report that some people are including their current birth in the form which inflates the number of previous births.

providers (see Chapter 4). Given that the data were so far from those expected it was decided not to proceed further with the analysis.

7.2.3 Improving the match quality

There are a few ways in which the overall dataset and match quality might be improved with more time. This should help to identify more teenagers who have had subsequent pregnancies:

- The figures presented in this thesis were based on exact matching only. This means that two records were only linked if both a complete date of birth and complete postcode matched exactly. Further 'fuzzy' matching (i.e. matching a partly different postcode to a complete date of birth or vice versa) is being explored and the data remained unavailable for analysis in this thesis.

- The matched dataset contained data for women who were aged under-20 years at pregnancy outcome. However, the ONS calculate conceptions for live births by assuming 38 weeks gestation and the Department of Health abortion form includes number of weeks pregnant. As such, and perhaps more so in the case of births, a young woman might have a birthday between conceiving and pregnancy outcome. This means the current dataset excludes all those young women who became pregnant aged under-20 but their pregnancy was resolved aged over-20. The data custodians were approached to resolve this issue and while this could be rectified easily by the Department of Health it required another data request to the ONS. The new dataset based on age at conception was not received in time for analysis in this thesis.

7.3 Discussion

Identifying the level of subsequent teenage pregnancy is important to improve public health policies and to help providers of abortion, maternity and sexual health services to plan and deliver their work. The data linkage exercise has confirmed that no method is yet available to routinely identify teenagers who have more than one pregnancy in England and Wales. However, it has proved to be a valuable learning exercise in highlighting the limitations of existing datasets and the practicalities of undertaking data linkage. Specifically:

- **Importance of building plenty of time into the schedule** to gain permissions, access and link the data. Since the initial application was submitted to the ONS and Department of Health it has been over two years and still issues with the data were being resolved at the time of writing this thesis.

- **Clear data specifications are vital** to ensure that the correct data are received. One of the issues with data linkage involving another organisation is the lack of autonomy of the process, meaning that issues are not identified immediately, and this can result in cumulative delays.

- **Complexity of various systems and people involved in the care of pregnancies** is arguably a key reason for the inability to identify young women who have more than one pregnancy.

- **The case for a unique personal identifier.** This data linkage exercise has shown that without using a common unique personal identifier on both ONS birth data and Department of Health abortion data it is not possible to identify a complete and accurate picture of teenagers who have more than one pregnancy. This thesis advocates a change in routine data collection to include NHS number on all abortion notification forms so that

this can be used, in combination with other personal identifiers, to link this data with birth registration data which already includes NHS number.

Chapter 8: The experiences of young women who become pregnant following an abortion

This chapter begins by describing the characteristics of the 10 young women who took part in the interviews, including their living circumstances, education and employment, sexual and pregnancy histories, and relationships. It then discusses the complex social processes involved in telling personal and private stories about teenage pregnancy and abortion, before presenting findings from the Interpretive Phenomenological Analysis (IPA) of the young women's accounts of becoming pregnant following an abortion. From this, four main 'superordinate' themes emerged from the data: pregnancies as distinctive but cumulative experiences, relationships and intimacy, fertility control and perceptions of risk, and abortion care and the sexual health system. The next chapter will then discuss the key findings in relation to existing literature to help advance theory on subsequent teenage pregnancy following abortion. In addition, it will consider what could work better to help previously pregnant young women manage their reproductive lives from the perspective of the young women themselves.

8.1 Background characteristics

The young women who took part in the study had different backgrounds and life experiences.

8.1.1 Age and ethnicity

At the time of interview the young women ranged in age from 17 to 20, with one aged 17, four aged 18, three aged 19 and two aged 20. All of the young women that took part in this study were White British.

8.1.2 Living circumstances

In terms of living circumstances, only four of the young women were living at home with one or both parents at the time of the interview, and of these, one stated that she spent most of her time staying over at the home of her partner's

parents. Another said she briefly moved out of the family home to live on her own before moving back; although she now spends most of her time at her partner's house. Four were living with their partners: two in council accommodation, one at her partner's family home and another in a house share. One young woman lived with a family friend and her partner occasionally stayed there too, while another lived on her own in council accommodation. All but two of the young women had parents that were separated. Four could be described as coming from explicitly unstable homes, either due to time spent in care, experiences of family sexual abuse and violence, moving frequently, parent's with drug and alcohol issues or being forced to leave the family home.

Using postcode data to ascertain levels of deprivation, seven of the young women lived in more deprived areas (deciles 1-5 of the English Indices of Multiple Deprivation 2010) and three lived in less deprived area (deciles 6-10 of the English Indices of Multiple Deprivation 2010) (DCLG, 2011).

8.1.3 Education and employment

Half of the young women were working full-time, one was in full-time education and four were unemployed; two of whom were mothers. Three had left school around the age of 16, four had finished sixth form, two had completed apprenticeships and one attended a specialist school following home schooling. Two aspired to attend university and one young mother was looking to go to college.

8.1.4 Sexual and pregnancy history

The age of first sexual intercourse ranged from 13-16 (this excludes one participant who was raped as a very young child and therefore the age when this first took place has not been disclosed for confidentiality reasons). The age of first pregnancy ranged from 14-17, and the number of pregnancies among the young women ranged from two to eight, with half having more than two pregnancies. Intervals between first pregnancy and second pregnancy ranged from a few of

months to over three years. All subsequent pregnancies after this occurred within a year of the previous pregnancy outcome. Four young women had become pregnant more than once with the same partner and the others had become pregnant by different partners. In fact, 24 different male partners were responsible for the 32 pregnancies among the 10 young women interviewed, although if one outlier case (Megan who reported eight pregnancies) is removed, this reduces to 16 male partners and 24 pregnancies. Three participants had children, with one whose children had been removed from her care. Two others were pregnant at the time of the interview and had decided to keep the child meaning they would be first-time mothers. Only one spoke of having miscarriages in the past. Two young women discussed having sexually transmitted infections (STIs) and two had experienced an STI 'scare'.

8.1.5 Relationships

The young women talked about being in different types of intimate relationships in the past, from just "seeing someone" or "flings" to "a proper relationship with proper feelings". Not all of these teenage relationships included sex. However, all but one of the young women were in a sexual relationship at the time of the interview, and these ranged in length. Four had been with their current partner for over three years and six for under a year, which in some cases was only a few months. Nearly half of the young women had been in relationships with an older male partners (≥3 years, n=4) in the past. Three of these were now with a new partner that was older and another had been with an older partner since she was 16.

Half of the young women reported having experienced physical or sexual violence, or psychological abuse. Two of the young women had been raped while growing up, one on multiple occasions by different people. Three young women indicated that they had been subjected to coercive control by a partner, ranging from being made to feel unattractive, to being convinced it was a good idea to

have a child. These were mostly described as past relationships or experiences, although as this information was disclosed in a one-off interview it is unclear how the young women might reflect on their current relationships in the future.

Table 20: Key characteristics of the qualitative sample

Name	Age at interview	Age at first intercourse	Age at first pregnancy	Living situation	Length most recent relationship	Abortions	Children/ pregnant continuing
1. Jessica	18	14	15	Parent(s)	<1 year	3	0
2. Megan	20	<12	14	Own	<1year	2	2 (children)
3. Lauren	19	13	14	Partner	3 years	2	2 (children)
4. Hollie	20	14	15	Parent(s)	5 years	2	0
5. Sophie	18	15	16	Partner	<1 year	2	1 (preg)
6. Sarah	19	14	16	Parent(s)	4 years*	2	0
7. Lucy	18	16	17	Partner	<1 year	1	1 (preg)
8. Hannah	18	16	17	Parent(s)	<1 year	2	0
9. Chloe	17	14	15	Family friend/ partner	3 years	1	1 (preg)
10 Emma	20	16	17	Partner	3 years	2	2 (children)

* Separated prior to pregnancy

8.2 Private personal storytelling

> "Everywhere we go, we are charged with telling stories and making meaning – giving sense to ourselves and the world around us. And the meanings we invoke and the worlds we craft mesh and flow, but remain emergent: never fixed, always indeterminate, ceaselessly contested." (Plummer, 2003, p.20)

Narratives are central to understanding human meaning and are typically the focus of qualitative inquiry but it is important to recognise that these cannot be seen as factual accounts, rather they are versions given in a particular time and

place. Reading Ken Plummer's (2003) book on sexual storytelling reinforced this point. He suggested that research accounts are created in the way that the data is collected, analysed and written, and emphasised the critical role of the researcher and wider ideologies of society in shaping these narratives. This is important, as Interpretive Phenomenological Analysis is concerned with the insightful interpretation of participants' accounts and therefore data analysis must engage with the socially constructed and situated nature of these.

Sexual stories appear to have gained "unusual power and prominence" (Plummer, 2003, p.6) in modern society but all stories have a consequence, and some stories are more easily told than others. The personal narratives of very intimate experiences, such as abortion, have often been kept silent due to political and moral blame, which tends to polarise positions. Indeed, there are consequences in telling a story and the stigma surrounding teenage pregnancy and abortion can mean that young women are shamed for their actions rather than supported. Without sharing their experiences, it is difficult to challenge understandings and shift societal views. Indeed, some social conditions serve to facilitate the emergence of new stories, and while stories of abortion may no longer be taboo, negative social attitudes remain. It is within this context that young women were approached and asked to bring their private experiences into the public. Most of the young women chose to tell their stories to help other young women, while others wanted to make sense of their own actions or consolidate their decisions.

Each interview had its own character and although there were important differences, there were also apparent parallels between the stories. It was apparent that some young women had not spoken much about their experiences and were trying to make sense of their actions and rationalise out loud. This led to confusion and contradictions. Other young women appeared more practiced and rehearsed, even deliberately trying to shock. Likewise, some young women were recalling painful experiences of denial, loss or being scared, and these interviews involved strong feelings and the negotiation of emotions. Others had

become disconnected from their experiences in order to move forward. Either way, none of these experiences can be taken lightly.

Sexual stories emerge in specific contexts, which for this study was a one-off interview. This meant that the accounts comprised of what was gleaned by the researcher and what the participants were willing to tell. Plummer suggested that sexual stories live in a flow of power and it is the ability to withhold information and be an expert in their own experiences which places certain power with the young women. However, there are also powers working beyond the interaction and Plummer argued that personal narratives about abortion, and in the case of this study, becoming pregnant as a teenager, are not just about abortion or pregnancy; they touch on wider ideologies and social attitudes towards teenage reproduction and sexual behaviour. What is therefore captured in the interview is a story at a particular time and what cannot be known is how the young women might reflect upon their experiences at a different time.

As with the multiple layers to the narratives, there are also multiple layers of interpretation. The researcher is not only involved in responding to what the interviewee says and eliciting the story, but how that story is then transferred to text and told to others. The outcome of telling a story is never clear in advance and how the reader might interpret the text is an important consideration. In particular, the media is often a forum in which contentious topics, such as teenage pregnancy and abortion, are discussed and debated. Through the media "personal and private narratives become the most public stories" (p.10) and these are not always presented without bias; they can be amplified or even transformed. Therefore, as a researcher it is important to always question whether you are giving a credible voice to those being researched, and with this strongly in mind, the next section presents the findings from the Interpretive Phenomenological Analysis of the young women's accounts of becoming pregnant following an abortion.

8.3 Interpretive Phenomenological Analysis findings

The analysis sought to better understand what life is like for young women who become pregnant following an abortion and the decisions that they make with regard to their subsequent sexual and contraceptive behaviour. In order to understand these life experiences it is important to recognise that "experience is a complex concept" (Smith *et al*, 2009, p.1). 'An experience' forms part of a continuum of experiences, in which our past experiences and memories will influence our future choices and behaviours. Therefore it would be overly simplistic not to consider the range of experiences that lead up to the point when a young woman becomes pregnant and needs an abortion, and then finds herself pregnant for a second or subsequent time. With this in mind, four 'superordinate' themes emerged from the data: pregnancies as distinctive but cumulative experiences, relationships and intimacy, fertility control and perceptions of risk, and abortion care and the sexual health system.

8.3.1 Theme 1: Pregnancies as distinctive but cumulative experiences

Stigma around teenage pregnancy and abortion is often an issue. This can intensify when teenagers have more than one pregnancy because it implies they have continued to act irresponsibly or promiscuously, and in the case of subsequent childbearing, this can be seen as further impeding their own and their children's life chances. However, such views are detached from context and young women's stories in this study highlighted that a much more nuanced understanding of the circumstances and motivations surrounding each pregnancy is needed as each pregnancy is a *distinct* experience. Moreover, current language used to refer to teenagers who have more than one pregnancy may encourage negative judgement. As experiences can build on one another, it is also important to consider the *cumulative* impact that becoming pregnant at a young age and having an abortion has on self-identity and future sexual and contraceptive behaviour among those young women who have subsequent teenage pregnancies.

8.3.1.1 The distinctive circumstances of each pregnancy

It was clear from the young women's accounts that using the term 'repeat' to describe the experience of young women who have more than one pregnancy can be misleading. It may introduce and reinforce stigma as it can negatively imply that young women have replicated their actions and have behaved irresponsibly. However, the narratives demonstrated that the circumstances and consequences of each pregnancy were very different, and each young woman's account had its own idiosyncratic features. The participants talked about changing their methods of contraception, getting together with a new partner, having different intentions around conceiving and other things going on in their lives which meant that each pregnancy was a distinct experience rather than a continuation of the same behaviour or situation. To illustrate this point a detailed examination of extracts from two participants will be used. Taking Hannah's story first, when asked how she felt when she found out she was pregnant following an abortion, she explained:

> "Confused. Cos it… like there's noth… I didn't know how it happened. Cos last time I wasn't using protection. This time I was." (Hannah)

This extract suggests that some experiences occur due to a lack of agency, in this case, not using contraception, whereas other experiences are unexpected and more difficult to make sense of. There is also the impression that Hannah felt personally accountable for her first pregnancy, whereas with her second pregnancy she was endeavouring to be safe by using contraception.

Another young woman, Lauren, described how following an abortion she got together with a stable partner and they decided to try for a child. However, this happened much sooner than anticipated. Lauren had a history of bad sexual experiences as a young teenager. She was raped at the age of 13 by an older man and this sent her "off the rails". She began drinking, taking drugs and had multiple sexual partners.

> "I got sexually abused by an older man when I was thirteen coming on fourteen. Erm and that sent me a bit 'woohoo' in the head. And I went AWOL and I did sleep around a bit." (Lauren)

She was "put on" the contraceptive pill after she was raped but said she fell pregnant whilst taking it. It is likely that her emotional wellbeing and frame of mind at the time impacted on her ability to use this method of contraception properly. Shortly after the abortion she got together with her current partner and when asked to describe her second pregnancy, she said it had been "planned in a way".

> "Well when I first got with him I was taking the pill - ran out of that. I was suppose to go to the doctors but didn't go there and we talked about what would happen if we fell pregnant and he said he wanted a baby. I wanted a baby as well. He wanted one more than me though. Erm I think he maybe wanted a baby more than me because his family has all got… like his brother and sister all got babies. His brother was then having another baby so… he felt a bit left out but he did want a baby and he was really genuine about it and said if you do fall pregnant then I'll be there for you. So [son] was planned in a way but we weren't expecting it to happen as quickly as it did." (Lauren)

This extract suggests that the stability of her new relationship and her partner's wish for a child both played a role in her decision to become pregnant following her abortion. The issue of access to prescribed contraception is also highlighted, as running out of the contraceptive pill partly promoted the conversation about having a baby. The role of male partners in influencing young women's pregnancy intentions will be looked at in further detail under *Theme 2: Relationships and Intimacy.*

8.3.1.2 Transforming the self and the impact of pregnancy on subsequent behaviour

As the young women's stories unfolded it was apparent that each pregnancy was part of a chain of experiences which had both significance and consequence. To understand experiences of subsequent pregnancy following abortion, it is

therefore necessary to explore the impact of events leading up to this; specifically the young women's previous pregnancies which ended in abortion and the influence of this on their subsequent choices and behaviours. Nine of the young women's first pregnancies ended in abortion. The young women had not been sampled as such; the inclusion criteria simply stipulated that to take part in the study a young woman must have become pregnant following an abortion before she reached the age of 20. However, due to this occurrence, the findings essentially provide a chronological account of the young women's pregnancy experiences.

Abortion experiences

The young women described very different abortion experiences. Depending on how many weeks pregnant they were and the range of services available locally, they could choose between either medical or surgical abortion procedures. One of the recruitment hospitals in the study only carried out abortions up to 12 weeks, after which the young women were referred elsewhere. This meant the referral pathway was extended for some. The other recruitment hospital commissioned an independent provider to deliver its abortion service mid-way through the study. However, young women with certain medical conditions were then referred back to the recruitment hospital by the independent provider to have their abortion. When there was a choice between the two procedures this largely came down to personal preference. Medical abortions were generally preferred as they were thought to be less invasive. However, the young women were often later surprised as they could be painful. They described being awake throughout and experiencing cramping and bleeding. Some young women, like Sarah, also felt nauseous and sick:

> "Yeah tablets put in rather than taken and then I remember I was quite sick so then I had an injection to stop me being sick erm and then just waiting for it to pass - the whole bed pan thing. I think I was trying to block it out. I didn't really…I'm I am quite in a way quite good at blocking things. I can sort of put it aside and pretend it's not me if that makes sense." (Sarah)

In contrast, Hannah did not like the idea of the abortion process occurring in a natural way and would have preferred a surgical procedure so she was not aware of what was going on. However, having a surgical abortion would have meant further delays as her pregnancy was identified very early on.

> "Well I wanted the surgical but there was a three week wait, so in the end I had the medical […] the thought of tablets going up there and it coming out naturally kind of creeps me out." (Hannah)

For some the procedure ran smoothly, while for others there were complications resulting in extended hospital stays or in one case, a failed abortion. The young women also had different clinical experiences, from different levels of support and empathy from staff to whether they had their own private room or went on a ward with other women having various procedures. This is discussed further under *Theme 4: Abortion Care and the Sexual Health System*. What was common across all the accounts was that having an abortion was a significant event, with many of the young women describing visually invoking elements and memories which had stayed with them.

The public and the private: personal and social responses

Abortion can evoke a variety of complex feelings and for the young women in this study these were experienced on two levels. The first level was a personal level, which related to the effect on the young women's emotions and sense of self. Every abortion is unique to the person who goes through it, and this experience is influenced by factors such as gestational age, abortion method, whether the young woman felt that the decision to have an abortion was her own, psychological resilience and the availability and timing of support. The majority of the young women in this study said that their main emotion was relief. This is perhaps because they felt they had made the right decision for them at that time. Having an abortion provided them with an opportunity to take back control of their bodies in the face of a life changing event which they were not ready for. Only Megan expressed regret about having her first abortion, and this was likely

because it was a late abortion and she lacked autonomy in the decision-making process. Some of the young women felt guilty about their decision. For example, Lucy questioned whether she had acted selfishly:

> "It was like I'm… I felt like I was being selfish like giving away someone's life because of stupid mistake that I did but I think it was kind of also right because I think it would have been better because I knew it just wasn't gonna have a good life." (Lucy)

There were embodied elements of emotions, with some young women feeling a sense of loss, sadness and emptiness. Jessica, for instance, talked about the sensation that something was missing from her body following her abortion:

> "And I didn't really understand it. I mean it's quite a strange feeling like it's hard to explain… you sort of realise that… this sounds quite cheesy but there is some sort of connection I know it's in your body but then all of a sudden it was something that was missing." (Jessica)

Meanwhile, Emma, who had an abortion for medical reasons, felt a deep sense of loss and struggled emotionally after the procedure as by then she wanted to have a child. For others, there was a sense that everything happened so quickly. Several spoke about physically going through the motions, without consciously taking in what was going on. Take Lauren and Jessica, for example. They suggested that this disconnection from the experience might have been a characteristic of adolescence:

> "I weren't really paying much interest in them at the time […] Like I say I was in a state of mind back then. I was fourteen do you know what I mean. But erm yeah my state of mind was a bit like all over... I had such an attitude on me back then as well. Probably didn't help. I was such a stubborn little cow (laughs)." (Lauren)

> "It didn't really hit me. Until I… the termination was over. Erm it was like I went through the procedure and right at that last moment I sat back down on the bed and I just sort of froze for a minute and I could hear erm the nurse mumbling in the background and I just broke down in tears and it just hit me and I realised what had happened. I don't know whether it [awareness of what was going on] was my attitude, because of my age..." (Jessica)

Others said that they were able to block out feelings and dealt with the experience pragmatically. This appeared to either be a protective strategy or a personality trait. The following two extracts from Sarah and Hannah help to illustrate these different reasons for suppressing emotions. It is apparent in Hannah's explanation that there is an anticipated stigma in how she describes her emotional reaction to having an abortion.

> "And just get on with it but if I thought about it I would get quite upset but actually in that like… at that time I was just like 'No it's just got to be done' type of thing and just got on with it." (Sarah)

> "As horrible as it is it doesn't really bother me. That sounds really heartless but erm when I think about it it is not really anything yet so. Detached myself from it." (Hannah)

The second level was the external experience, recognising that teenage pregnancy and abortion are situated in wider social and cultural narratives. These mediate not only what young women perceive others might think and what they should feel, but also whom they share their experiences with. Many women want to keep their abortions secret because there remains stigma around talking openly about the decision, which can intensify if they had undergone more than one abortion. This even manifested in the interviews with some of the young women only choosing to reveal further abortions late on and even then, pre-empting how they might be negatively perceived.

> "And I did have to have another termination in between as well…. But I had a surgical one that time… I sound like such a bad person." (Sophie)

In this study, none of the young women intended to inform their parents about their first pregnancies or, consequently, their decision to have an abortion; albeit this was necessary in some cases due to exceptional circumstances or abortion complications. Some young women were scared of how their parents would react and did not want to let them down, although this fear was often unfounded. A

few who had difficult relationships with their parents thought it would just be "another excuse for an argument" (Lauren). Typically if anyone was told, it was the person that the young woman had conceived with and her closest friend. The young women felt like it was their body and their choice to do what they want with it. It also appeared that the fear of stigma extended beyond abortion, to adolescent sexuality at such a young age. Indeed some were ashamed they had got unintentionally pregnant in the first place while a few felt uncomfortable talking about their sex lives publicly. Hollie said "I felt sick that I was [pregnant]. Not because I knew, well because I knew and I didn't want anybody else to know".

Being pulled by individual beliefs and societal attitudes can lead to conflicting feelings. Psychologically and emotionally it took different times for the young women to process the impact of their abortion, and on the whole they were able to integrate the experience well. Even though having an abortion does not have the same implications as becoming a mother, the experience is one that can never be reversed and therefore remains a transitional event in the young women's lives.

> "But erm and then after a while it sort of faded but it never leaves your mind, never. I mean even like the slightest little thought that there's anything relevant to it you do sort of think 'Aw, I've gone through that'." (Jessica)

8.3.1.3 The cumulative impact of having an abortion

Having an abortion had consequences for many of the young women in terms of their subsequent sexual and contraceptive behaviour, although this was often temporary. Most talked about not wanting to have sex after their abortion to allow time for their body to recover. Some participants waited for a few weeks, while for others it was months. Jessica talked about the physical impact and being a bit "worse for wear body-wise" afterwards:

> "Erm not straight away. I I was teary. Erm and to be quite honest I was a bit more worse for wear body-wise so I wasn't completely with it and then we went back home and I was like passing out being sick- things like that. There was a lot of blood so I didn't really have enough time to think about it." (Jessica)

Others talked about feeling insecure about sex in case they became pregnant again or just needed more time to process what had happened.

> "I think it was because I felt like I didn't want to. I didn't want to get into that situation again and I think because I didn't have closure I wasn't really ready to er yeah." (Sophie)

> "Put off for life (laughs). For a long time we were quite put off and wary of even attempting to I think [Interviewer: What was sort of you wary about?] That it'd just happen again." (Sarah)

This was not the case for all the young women interviewed however. Hannah said that becoming pregnant and having an abortion had very little impact on her subsequent sexual behaviour. She split up with her partner straight after the abortion, and almost immediately caught Chlamydia, meaning she continued to engage in behaviours that placed her at risk of subsequent pregnancy and STIs.

> "We broke up right after the abortion. That was just another… It was nothing to do with the abortion. It was just… wasn't working. I had a quick fling with a guy… turns out he had Chlamydia." (Hannah)

Subsequent pregnancy intentions, contraceptive choices and perceptions of fertility may also be altered following an abortion. More than half of the young women said they were not using contraception the first time they became pregnant and had an abortion but all said that the pregnancy had not been planned. Further examination highlighted ambiguity in a few cases. Following their abortion, the majority of the young women intended to either start using contraception or to switch to a different method. However, these intentions were not always followed by behaviour and even when they were, continuation rates varied either due to low motivation or prioritisation of pregnancy prevention, or

other practical barriers. There appeared to be some resistance to choosing long-acting contraception after an abortion. Circumstances for others changed and the prospect of starting a family felt right for them. There were also some young women who believed that having an abortion could cause infertility. These issues are explored further under *Theme 3: Fertility Control and Perceptions of Risk.*

Whilst having an abortion is largely perceived as a negative experience, a couple of the young women saw it as an opportunity to take back control and think about what they want to do with their lives. For example, Jessica talked about how each abortion experience made her develop more broadly as a person and "grow up".

> "…it sounds so naff when I think about it and I mean it was not long ago but I think er these these abortions they they er make you grow up a little bit just that little bit. It gives you a push and you wake up a bit…" (Jessica)

Finally, having an abortion can make the decision about whether to continue with a second or further pregnancy much harder. The challenge was that the young women could not predict the consequences of their decision and were faced with the dilemma that they may not be able to get pregnant again meaning they had therefore given up the opportunity to have a child. This was heightened for those who believed that having an abortion can affect fertility, and compounded with each abortion. For the young women who had subsequently become mothers, further pregnancy decision-making was challenging as they described being more emotionally attached to their foetus even if their circumstances were not right to have another child. Jessica had only been in a relationship for a couple of months with her new boyfriend when she discovered she was pregnant for the third time:

> "Now going through another abortion it's sort of become more pressure because I'm thinking if we are together by chance and I can't give him a baby […] we've already been sort of here before, if that makes sense, so it would have been a mistake rather than a good thing this time round." (Jessica)

The narratives have shown that each pregnancy had its own story, and with each further pregnancy the young women's stories became more multi-faceted.

8.3.1.4 Summary

Talking with young women who have become pregnant following an abortion has highlighted the distinct situational, behavioural and emotional circumstances of each pregnancy. As such, using the term 'repeat pregnancy' can be misleading as it suggests the young women have somehow done the same thing again. Many of the young women were initially motivated to prevent further pregnancy following abortion by starting or changing contraception. However, their relationship status, sexual activity, intentions around conceiving and expectations for the future, often changed from one pregnancy to the next. These influences were often dynamic and contextual, and were compounded by other behaviours, feelings and pressures which made it difficult for the young women to manage their fertility. An important theme concerned the role of sexual agency, in terms of sexual, contraceptive and pregnancy decision-making, and the extent to which the young women felt they had control over their own bodies. Agency was most noticeable in their choice about whether to continue with the pregnancy or not, although this choice became harder with each pregnancy. At other times the young women were passive in their sexual and contraceptive choices or constrained not only by their partners but the often unanticipated nature of sex, their own internal conflicts, perceived social norms and the healthcare system. The changing nature of the young women's attitudes towards pregnancy over time was also apparent. While it is can be difficult to draw a clear line between pregnancies that are accidental and those that are planned, none of the young women stated that they had planned their first pregnancy (nine ended in abortion and one in miscarriage), although some had planned their pregnancies after this. Many had inconsistent feelings around becoming pregnant which were influenced by their social context and changing circumstances. Abortion

experiences also influenced the young women's perceptions of fertility meaning this could have a negative impact on their future contraceptive behaviour.

8.3.2 Theme 2: Relationships and intimacy

Relationships and intimacy played an important role in the young women's lives and had both a direct and indirect influence on the choices they made about sex, contraception and early parenthood. Family members, friends and partners were among those who shaped the young women's expectations and these encouraged particular decisions in their lives. The experience of closeness and conflict in these relationships served to either protect against or promote sexual risk-taking and motivations towards pregnancy following abortion. It also affected other risky behaviours which tend to increase the likelihood of engaging in unsafe sex, such as alcohol and drug use. For many of the young women these relationships exhibited complex dynamics of security, trust and control. This section will explore interpersonal influences on sexual behaviour and subsequent pregnancies following abortion among the young women interviewed. At times, it has been difficult to untangle influences on first and subsequent pregnancies, as a negative relationship experiences or an unstable childhood can have a lasting impact and often act as a catalyst for disruptive patterns of behaviours. Indeed, the situations which resulted in these young women becoming pregnant and needing an abortion in the first place will not inevitably end because they have been pregnant; although as *Theme 1: Pregnancies as Distinctive but Cumulative Experiences* highlighted, there were often some behavioural changes made following an abortion and inevitably with the passing of time, their personal circumstances often changed too.

8.3.2.1 Parent and family relationships

Parents and families were an important influence on the young women's sexual decision-making, especially in early adolescence. The quality of these relationships, level of parental supervision and experiences of other early

pregnancies within the family all came to bear upon the young women's sexual behaviour and pregnancy intentions.

Difficult relationships with parents

Around two thirds of the young women described a problematic relationship with their mothers, including all of those who had become young mothers themselves. The reasons given for this varied, from having mothers who had problems with alcohol or depression, to having mothers who had difficulties in their own intimate relationships. Mostly, however, the young women said that they simply did not get along with their mothers. Arguments were common and a lack of support and security meant these young women were likely to engage in behaviours such as drinking, smoking, drugs and underage sex. Jessica described how her mother drank when she was younger and this often led to arguments. She came to resent these and began "acting-out" in defiance:

> "Because of how that sort of affected me and that's another thing that affects you mentally, physically, it drains you out and it always got me in a state of mind where I thought 'Fuck it' you know, I'm going to do what I want and I think that's the teenager thing." (Jessica)

When Jessica explained her behaviour, she did so by relating it to a characteristic of adolescence, saying she was too immature and careless to recognise that her actions were self-defeating and could bear serious consequences. She began drinking herself and fell in with the wrong crowd. She made the decision to leave home when she was 16, although she later returned. Shortly after this she became pregnant for a second time, having previously fallen pregnant when she was 15. While she said she was taking the contraceptive pill, she was doing so at night and often vomited after drinking too much, so it may not have been absorbed by her body.

A minority of women talked about having good or neutral relationships with their mothers. However, there still appeared to be issues talking with them and

embarrassment when it came to discussing topics of a sexual nature or their decision to have an abortion.

> "Yeah we've got a great relationship. I just don't want to tell her [about the abortion]." (Hannah)

> "…they're [parents] not not close if that makes sense but they're not really close but I just, we never speak about anything like that at all [sex]. We never have." (Sarah)

Father-daughter relationships were less often discussed but still of importance. Seven young women described how their biological fathers had left the family home when they were young and another said this had happened in the last year. Having an absent or emotionally unavailable father led some of the young women to seek affection from a male partner. This need to feel wanted could expose the young women to controlling or coercive relationships. For example, Lucy described how her father emotionally withdrew following a family bereavement. She then found herself substituting his affection with that of a male partner.

> "I used to be such a daddy's girl. I used to like always go to my dad for cuddles and stuff but I never really did that anymore so I kind of went to the next person along, if you know what I mean?" (Lucy)

It turned out that Lucy's partner had cheated on her but she still wanted to be with him. She explained that she did what she could to "keep him happy", suggesting a degree of emotional control over her. Shortly after this she became pregnant for the first time. There was confusion about whether she was using contraception or not, and this may have been a result of her mental health at the time. Following this relationship, she then met a new partner whom she described as caring and dependable, and who would make a "good father". It appeared she desired security in her life and was seeking closeness, saying she wanted to "just settle down with someone and to have a relationship where I didn't have to worry that I was going to break up with them". Thus, for Lucy, becoming pregnant and building her own family was a way to achieve this.

Parental separation and new families

Some young women talked about the negative influence of their parents' separation. Tensions often arose when parents separated or divorced and new step-parents and occasionally siblings became involved, especially if the young women did not get on with them or felt overlooked by the new family unit. Meeting a new partner and starting a family of their own could provide potential stability away from these strained relationships.

> "Erm my dad he obviously had me and then he got with another woman who was evil beyond evil. She was just twisted in the head." (Lauren)

> "I lived with him, his girlfriend was like 'Oh you're just a scumbag. You never went to school' this kind of thing. Erm she was really malicious." (Megan)

Lack of parental supervision

There was also an apparent lack of parental supervision for some young women. The majority had moved out of the family home by the time they had reached the age of 18, although one had subsequently returned. This meant they were left to make their own life choices and in hindsight, some realised that this had happened too soon.

> "… I moved in with him when I was sixteen because I fell out with my mum and she kicked me out and told me she didn't want me back and… was a bit quick to be honest. I didn't mean to do that. I should have gone to my dad's." (Lauren)

Often leaving home early and moving in with a partner not only made it easier to have sex more frequently, but for some young women provided motivation for them to start their own families. Both Lauren and Chloe became pregnant shortly after they moved out of the family home and opted to continue with the pregnancy and keep the baby. Moving in together was the result of having a child for one young woman. In contrast, all those young women who had chosen to

have an abortion the second or subsequent time they became pregnant, and therefore delay having a child, still lived with at least one parent.

Young motherhood as the norm

Two of the young women said that their own mothers had given birth as teenagers and one had a sibling who had become pregnant at the same time as her. Their own childhood experiences of being brought up by a teenage parent shaped the young women's attitudes towards young motherhood. These young women either openly or subconsciously appeared to desire to having their own loving family, even if they believed they were too young the first time they became pregnant. Chloe said that she did not want to be as young as her mother when she had a child, which prompted her to have an abortion the first time she became pregnant aged 15.

> "I was scared. I didn't want to tell my parents, because I felt that they'd sort of be a bit disgusted of me, in a way, but I mean my mum was young when she was pregnant with me. She was 16 when she had me, so it was like her, but I didn't want to be as young as that. I wanted to make sure I was out of school and I'd done my GCSEs, and things like that." (Chloe)

However, her views about early motherhood changed as she matured and she decided to continue with her second pregnancy, aged 17. While she had not been actively trying to get pregnant she was not using contraception to prevent pregnancy either. In part this was because her own childhood experiences mean she wanted to build a loving family of her own.

> "I had a bit of a rough childhood, so to have a child of my own, and bring him up in a better way than what I was brought up is what I've always wanted." (Chloe)

The data here suggest that even if a young woman has an abortion at a young age, it cannot be assumed that she does not want to become, or feels somewhat fatalistic about becoming, a teenage mother. For some young women there may

also be a sense of loss as a result of abortion, particularly if they had wanted to continue with the pregnancy. This is discussed further in *Theme 3: Fertility Control and Perceptions of Risk.*

8.3.2.2 Friendships

Social norms among teenage friends and "getting in with the wrong crowd" appeared to have a strong influence on the young women's' sexual behaviour and their desire to become pregnant at a young age. Most of the young women described feeling comfortable talking about their sexual experiences, relationships and contraceptive use with friends. Indeed, informal knowledge was a particular important learning source when it came to choice of contraception (see *Theme 3: Fertility Control and Perceptions of Risk*). Other peer group risk behaviours, such as drinking, drug taking and anti-social behaviour also seemed to influence sexual behaviour. Two young women said that they had been drinking at the time they became pregnant the second or subsequent time: Sarah who had been going out socially with friends and Jessica who had got in with a group of friends that drank heavily.

> "Sometimes with certain people you act in a certain way […] Trouble making, drinking, that sort of thing really. I don't really know why but you just do." (Jessica)

Megan had also be using drugs and/or drinking when she became pregnant on more than one occasion but these occurred before she had an abortion. Indeed, such behaviours appeared more associated with first pregnancies among the young women interviewed and they typically referred to their younger selves when discussing experimenting with drugs and alcohol. For those young women who had become mothers, this often stopped such behaviours.

> "Well, I don't really know how I got into it, but I got in with the wrong crowd and I was doing stuff that I shouldn't be doing, like taking certain stuff […] especially speed and cannabis really. And then obviously I was sleeping with people that I didn't really want to […]

> I'm not on them anymore, and I've been off them for about three – since I've met [current boyfriend] really. Through being with him and having the babies, it's stopped me going back down that way." (Emma)

The above extract suggests that these young women felt compelled to go along with certain behaviours, even though they did not want to. This is a powerful indicator of both a lack of social and sexual agency. Friendships can also influence a young women's desire to become pregnant. Sophie described how her group of friends were typically older than her and starting to settle down. She had been pregnant twice before and the second time it was planned but she had an abortion when the relationship broke down. As the extract below highlights, this time peer influence was likely to be one of the many reasons for her current pregnancy.

> "…cause well quite a lot of my friends are pregnant now. They're quite older than me. They're about twenty two. Same age of my partner, twenty four, twenty two, twenty four something like that, so they're settling down a bit more now." (Sophie)

8.3.2.3 Relationships with sexual partners and coerced sex

For the young women in this study, intimate relationships played a central role in their development. They could protect against, encourage or sometimes force sexual behaviours which put them at risk of further pregnancies following an abortion. There were different types of relationships, from casual encounters to longer-term relationships with steady partners, and what separated these appeared to be the development of an emotional attachment.

> "He was he wasn't my first real boyfriend. Like you have them flings at high school and you're like 'Ooooh' but no he was my proper like person who like I started caring about and like wanted to spend my time with." (Lucy)

The majority of the young women had been sexually active since they first had intercourse. Even after undergoing an abortion, all resumed having sex within a few months, if not sooner. A minority of the young women discussed the pleasure

of having sex with their partners but there was also the suggestion of sexual coercion and pressures to have sex in order to maintain the relationship. This section looks at three leading themes concerning the influence of intimate relationships on subsequent pregnancies. The first concerns the role of male partners and their behaviours and intentions. The second centres on notions of love and desire in a relationship, which entwine with power dynamics and non-decision-making. The third theme focuses on an unhealthy form of intimacy which involved sexual coercion and rape. While this overlaps with the role of male partners this was considered to be a specific issue in itself. Each of these themes will now be explored in further detail.

The role of male partners

The role of male partners was often brought up by the young women when discussing their subsequent pregnancies, and there were several issues worth highlighting, including: who takes responsibility for contraception, a male partner's willingness to leave pregnancy to chance, and a male partner wanting a child. Generally, in terms of condom use, some male partners were reluctant to use a condom suggesting that they were uncomfortable and it felt less intimate.

> "Not all the time, no [used a condom]. I don't really know […] He kind of said, 'Oh, don't worry about that', sort of thing. Yes, and then he didn't really, he didn't like the feel of them. Every man's excuse…" (Emma)

The wider issue of negotiating contraception is also raised in this extract. Occasionally, when the young women tried to negotiate condom use with their partner, this turned into an "if it happens, it happens" conversation, meaning that their partners were encouraging unprotected sex and offering reassurance of support if they did become pregnant. Continuing Emma's story, she explained:

> "He said, 'If you get pregnant we'll sort it out. If we're ready to have a baby then we'll have a baby, but if we're not we won't', and he was very supportive with that and erm […] which I thought was quite

> strange for a youngish lad at the time […] I could say, 'Can you wear one, because I don't particularly want to get pregnant', and he'd be like, 'Yes, alright then'. Heat of the moment; sort of its time consuming to put one on, really, so you just, quite simply, didn't use one." (Emma)

The extract above highlights that responsibility for contraception is not always straightforward and multiple factors affect young women's reasoning and decision-making. For Emma, her partner's aversion to using condoms, the reassurance that he would support her if she did become pregnant and also being in the moment and not wanting to interrupt sex were all reasons for not insisting on using a condom every time they had sex. Evident in explanations, such as these, is a lack of agency and fatalism about sexual encounters.

The young women differed in what they wanted from their intimate relationships and their desire for early motherhood. This was influenced by a number of social and background factors. Some described wanting to "just settle down with someone", while others wanted to continue their education or have a career. This was true for male partners too, who had ideas around when they wanted to start a family. For example, under *Theme 1: Pregnancies as Distinctive but Cumulative Experiences*, Lauren's story was used to illustrate the uniqueness of pregnancy experiences. When she became pregnant the second time this was strongly influenced by her partner's desire to have a child, brought on by his siblings having babies at that time. In another example, Sophie discussed a scenario in which her partner appeared to want her to become pregnant, only for these relationships to breakdown:

> "I was with him for about six month's erm. I knew him from school but we kind of re-met through a friend of mine and I kind of went downhill a little bit with him. He was very into drugs, very into alcohol and he was always in trouble with the police and things like that and he tried to persuade me that he wanted a kid and everything. So we tried. I got pregnant and then he left me (laughs) and that was when I was seventeen." (Sophie)

It was not just the young women in the study who had fallen pregnant by their male partners. Some discussed how their previous partners also had children with other young women and there may also be further pregnancies which ended in abortion or miscarriage which they were unaware of.

> "He reckoned he was in love with me but yeah of course he was, which was the best decision for me to do now because that bloke has now got three children by three different women. So that could have been four." (Lauren)

Ideas of love and desire in adolescence

Love and desire were powerful drivers of sexual behaviour, and continued to be so following an abortion. Although rarely explicit, some of the young women associated love with stability. It was apparent in a couple of cases that having a baby together was seen as an expression of love and a way to please or keep a partner. Both Sophie and Lucy talked about their romanticising of love and family and how they saw their partners' interest in having a child as a sign of commitment, meaning they were happy to go along with the idea.

> "Because like his family love me so they always talk to me and like 'We never thought he would even consider having a child'. So I obviously thought well he must really want to be with me if he's talking about having children with me and stuff but we weren't expecting it to happen, it just happened. And we were so happy." (Lucy)

Sex was often linked to the need for intimacy and some of the young women appeared to have been pressured into having sex, often without contraception. However, desire also played a role in unsafe sexual practices and influenced the young women's willingness to negotiate contraception. Desire can be seen as the underlying drive or attraction towards someone and can lead to impulsive behaviour. Some of the young women described being in the moment and "forgetting" about contraception or if they did think about it, prioritising immediate pleasure over possible risk of pregnancy.

> "[You] don't think about it at the time [contraception] because you're so in love […] that you know that first feeling of being with someone and you're just so like wrapped up and everything, you don't think about things like that. No (laughs) no. But we all make mistakes." (Hollie)

Hollie went on to state that "it kept happening and happening" meaning that not using contraception became a regular behaviour. Other factors which influenced the young women's ability and motivation to negotiate contraception in these situations should not be overlooked and are discussed further in *Theme 3: Fertility Control and Perceptions of Risk*, as well as in the next section looking at sexual coercion and rape.

Sexual coercion and rape

A few of the young women had been pressured into having sex or had been raped in the past. Megan, who had a complex history, became pregnant on more than one occasion after being raped. The experience of being sexually assaulted by a family member, friend or stranger when younger could also prompt subsequent sexual risk-taking. For example, in *Theme 1: Pregnancies as Distinctive but Cumulative Experiences*, it was discussed how Lauren "went off the rails" after she was raped in her early teenage years by an older man and she started acting out in response to this experience.

> "I was going out and getting plastered out of my head. Taking whatever drugs I could because I wanted to forget things and then I ended up doing things I didn't want to do [like] sleeping with boys." (Lauren)

A minority of the young women appeared to have been in toxic, manipulative or sexually coercive relationships in the past, and it is likely that they found it more difficult to refuse sexual activity or negotiate contraceptive use - which put them at risk of subsequent pregnancies. Lucy described a scenario where her ex-partner refused to use a condom but the situation meant she felt trapped and was unable to say no to having unprotected sex.

> "He was just like 'I'm not wearing it' [Interviewer: Did you feel able to say no?] No. Just thought he was going to be like 'Go home then'. Which… I had like a moped at the time and it was wet and really snowy." (Lucy)

It was suggested that pregnancy in itself was a way of controlling the young women. Emma believed her partner wanted her to be pregnant so that she looked less attractive. She said that ever since he cheated on her, he did not want her to go out because he was afraid she might cheat on him or she might discover he was cheating on her again.

> "He's slightly controlling like that. He doesn't want me to be me again […] He wants me to have a baby so I get fat again, I eat what I want cos I need it, I want the chocolate cake that's in front of me, er but he doesn't want me to go back to how I was." (Emma)

8.3.3.4 Summary

Relationships and intimacy appeared to play a pivotal role in further pregnancies among the teenagers in this study. The environment in which the young women grew up in, the quality of their parental relationships and levels of family stability, all formed part of the context of the young women's sexual and contraceptive decision-making. While many of these factors have been found to be associated with teenage pregnancy, for teenagers who have more than one pregnancy there are cumulative influences and complexities in their lives. Family instability not only meant that many were living away from the family home before adulthood but also a lack of emotional fulfilment that, in some cases, could push young women towards intimate relationships and a need to have a loving family of their own. For others it led to engagement in behaviours which increased the likelihood of sexual risk-taking; and these did not necessarily stop after having an abortion. There were also multiple levels of family and peer group norms influencing sexual behaviour and ideas about early pregnancy.

The role of males is often overlooked in teenage pregnancy prevention but it was clear from the interviews that their attitudes and behaviours influenced the

young women's own sexual behaviour, contraceptive use and pregnancy intentions. This was particularly apparent in terms of negotiating contraception, decisions about whether to risk unprotected sex and when a male partner wanted children. The dynamics of these relationships could change over time or when a new relationship was formed. Power and agency were multifaceted concepts within these relationships, and reason often struggled against emotion making it difficult for the young women to make positive choices in relation to their sexual health. Reproductive and sexual coercion was evident in some cases of subsequent pregnancy, while earlier experiences of rape affected later sexual behaviour in different ways.

8.3.3 Theme 3: Fertility control and perceptions of pregnancy risk

Having outlined how pregnancy experiences are both distinctive and cumulative, and then how subsequent pregnancies can be influenced by interpersonal relationships and other social factors, this theme looks at the young women's attempts to control their fertility following abortion and how this was influenced by their aspirations for the future, their beliefs about the likelihood that they would become pregnant and practical and perceived barriers to contraceptive use. Four themes were apparent: (1) finding an acceptable method of contraception; (2) contraceptive and user failure; (3) subsequent pregnancy intentions; and (4) misperceptions of pregnancy risk.

8.3.3.1 Finding an acceptable contraception method

As sexually active young women, contraception was the main method for preventing pregnancy. However, all of the young women described difficulties with finding a method of contraception that worked for them. All had used more than one type, with condoms and the contraceptive pill being the most popular methods. LARC methods (such as contraceptive implant, contraceptive injection, intrauterine device and intrauterine system) had only been used by three participants; although six were planning on using a long-acting method following

their most recent pregnancy (none of whom had tried a LARC method before) and one young woman who had tried the contraceptive implant stated that she wanted to be sterilised. The key barriers to effective contraceptive use were: sexual health literacy and access, real and perceived side effects, switching methods and the timing to resuming contraceptive use following an abortion.

Sexual health literacy and access

The young women had different levels of awareness and knowledge of contraception and it cannot be assumed that because they have been pregnant before and engaged with health services that they had already been given this information or fully taken it in. Simply being given information is not the same as having a full understanding of it and therefore being able use the information to make positive decisions about health. Moreover, contraceptive 'knowledge' may be based on myths and misinformation, and the complex personal lives of these young women may mean that knowledge, understanding and access to contraception alone may not be enough to prevent further unprotected sex.

At the beginning of the interview the young women were asked to talk about their experiences of sex education at school in order to orientate the discussion towards more personal sexual experiences. All of the young women had received sex education, although this varied in quality and content, from a one-off session to having a drop-in sexual health clinic schools. Often the young women described sex education as "embarrassing" and "awkward", with some having to listen to "goofy songs" or watch "silly cartoons" about contraception and sex. From these accounts, sex education classes appeared to largely focus on the biology of reproduction and user-dependent methods of contraception rather on emotions and relationships. Some of the young women said that the range and popularity of different methods of contraception had grown since they received sex education. For most, friends and the internet were now the main sources of advice on sex and contraception and there was an apparent difference between

awareness of different methods and having knowledge and understanding of them.

> "I suppose I did always know about them. But I didn't know about them if you know what I mean, like I'd never been told much about them. I knew they were there but yeah." (Sophie)

It was clear that some still felt uncomfortable discussing contraception with their General Practitioner (GP), especially if they were male, and this embarrassment could prevent the young women from asking necessary questions.

> "I'm not really sure. I was quite lazy, so after finishing the pills that I had, I didn't I didn't sort of want to go back and get more. Plus, because I was younger, as well, it was a bit more embarrassed and sort of I didn't feel comfortable going to my GP and talking about it." (Emma)

As Emma's account suggests, embarrassment about going back to her GP to get a repeat prescription for contraception following her abortion may have been a factor in her discontinuing the contraceptive pill. Another barrier to access was living in a small village or town where some young women felt there was a lack of privacy and confidentiality. These issues are discussed further under *Theme 4: Abortion Care and the Sexual Health System.*

Real and perceived side effects

Many of the young women talked about experienced or perceived side effects from different contraception which made them discontinue use or not want to try the method in the first place. These concerns were mainly with the immediate, embodied side effects rather than the potential long-term risks to health from hormonal contraception. They varied between methods, and included: mood swings, itching, weight gain or loss, bleeding issues and headaches. Some young women experienced a combination of these side effects and this could restrict their contraceptive choices. For example, Lauren complained that she

experienced discomfort and itching with the implant but could not use other hormonal methods for a variety of reasons:

> "I'm not allowed the coil anyway. I'm not allowed the hormonal one cos I'm allergic to that hormone… I'm not allowed the titanium one I think it is, cos my periods are too heavy…. I've basically everything's ruled out for me. I can't have the injection cause I suffer from migraines. Technically I shouldn't have the implant but they've found an exception for that somehow. They won't get me clipped which I've asked about because I'm too young… which I can understand but I have had two children." (Lauren)

Sarah discovered that her first contraceptive pill affected her moods, although it took her a while to recognise this:

> "It made me a horrible person [contraceptive pill], I was so miserable (giggling). I think it was the hormone balance in it. I think it was the hormone balance in it." (Sarah)

When side effects became intolerable, some young women stopped their chosen contraception method completely, exposing themselves to becoming pregnant and prioritising the immediate relief of side effects over the more long-term possibility of future pregnancy. These young women just took a chance and hoped for the best. Another rationalisation for stopping contraception was that some young women wanted their body to remain natural and free from chemicals, especially if it had impact on their periods or had appeared to cause damage to their body in some way. This demonstrates the young women's concern about being 'in control' of their bodies and their future health. The following extracts from Hollie and Hannah help to illustrate these interpretations:

> "That [implant] was after my first termination that I had. Erm yeah, so I had that in for three years and that actually caused a cyst on my right ovary so I didn't want anything that was in my body that was harm… that was affecting my body cause that caused me a lot of pain. So I decided not to have anything […] I just wanted my body to be free of anything and my cyst disappeared. It went." (Hollie)

> "Well I stopped taking it [contraceptive pill] in the end because I was feeling really sick on it. Erm and I was on nothing. It was my own fault really but I just left it and hoped for the best that I wouldn't [get pregnant] […] I wish I had got something but I kind of just left it." (Hannah)

Other young women endeavoured to try other methods of contraception or different brands of the same method until they found one that was right for them. For example, continuing with Sarah's story, who found out she was susceptible to severe mood swings on the pill, she then tried two more different brands of the contraceptive pill before she found one that was acceptable.

> "I went to the doctors and changed it and just went through all different ones and then finally got one that's OK [IV: So how long did you sort of go with it before you decided to change it?] Quite a few months. And as well because I didn't really know much about it either I didn't particularly link it to that at first. I just thought I was moody." (Sarah)

Informal knowledge was extremely influential when weighing up the pros and cons of different methods of contraception, but this also meant that these decisions could be based on myths and misinformation. Some of the young women had been put off certain contraception after hearing about negative experiences from friends and, on occasion, family members. Others had read up about them from various sources online. This was particularly the case for long-acting methods but also with the contraceptive pill. These stories often planted doubts and fears in the young women's minds, which went unchallenged.

> "I started dating this guy and we were together not too long but quite a while and I then went on the injection. Erm but then I got scared because I got told [by a friend] there can be… it can cause complications." (Megan)

> "I didn't want to take it because I knew people who have like put on weight because of the pill and I I I had… I didn't have self-esteem anyway […] so I was like 'I don't wanna be messing about with my hormones and stuff. I just wanna be normal'. So that's why I didn't really go on anything…" (Lucy)

Vulnerable times: Resuming and switching contraception

One of the issues with changing methods of contraception is that it can expose young women to the risk of pregnancy if there is a gap before they stop one method and start another or if they start the new method at the wrong time in their menstrual cycle. Method or brand switching was found to be a reason for subsequent pregnancy for a small number of the young women in this study. After her abortion, Chloe started taking the contraceptive pill. However, when this ran out she decided not to get a repeat prescription as it had made her feel nauseous and impacted on her moods. She also expressed some doubts about her fertility following the abortion. After having unprotected sex for a while she then decided to try a different contraceptive pill but by this stage she was already pregnant.

> "I was going to try a different pill, to see if it would help me with my periods. Cos erm my periods – for some reason, they just kept lasting over a week, and it was quite uncomfortable, to be honest […] When I went in there, obviously they ask you if you've had unprotected sex, and cos I had, they made me do a pregnancy test and […] and then I went back in, and then they were like, 'Right, you are pregnant'." (Chloe)

Sometimes the young women would move to less effective methods of contraception, such as condoms or withdrawal, and then slowly this would result in them using no contraception at all. Moreover some young women did not know or understand that they were immediately fertile following an abortion or were unable to obtain contraception from their abortion provider. Instead the young women were referred to a sexual health clinic or their GP. A few did not go straight away, either because it had slipped their mind or other barriers prevented them. Hannah wanted to get the coil fitted following her first abortion but said that she was told she would need to wait three weeks because she was having a medical procedure. She forgot to book an appointment and then caught Chlamydia which further delayed when she could have the coil fitted. She then found herself pregnant again but said she had been using a condom at the time.

> "I got told about different contraceptions. I was gonna get one but then my phone broke and I lost all the numbers the hospital been ringing me on and I kind of just forgot about going to arranging an appointment. And then the big issue was I was supposed to get the coil but there was a risk of Chlamydia from some annoying boy. It was just a fling. So I couldn't get it until I'd had my results. And then it turned out I did have it, so I had to wait another two weeks for that to disappear after the tablets by which point I was pregnant again." (Hannah)

There appeared to be two important issues here. Firstly, the young women's own actions and lack of urgency to start or resume using a method of contraception following an abortion can put them at risk of further pregnancy. Secondly, even if the young women have good intentions, they may be let down by health services either due to insufficient follow-up or a lack of integration between abortion and contraceptive services.

There were also issues with lack of availability of LARC methods in some geographic areas with smaller GP surgeries. As Lauren explained:

> "A couple of months [used pull out method] and then I went and got the implant put in […] because we were living near [area A] and I had to go to [area B] doctors to get it done because they didn't do it in [area A]." (Lauren)

8.3.3.2 Contraceptive and user failure

No method of contraception is 100% effective and in our sample contraceptive failure was implicated in the young women's explanations of subsequent pregnancies. Typically failure was associated with using condoms or the contraceptive pill which have higher failure rates, especially if not used correctly. Indeed, if a method is not used as the manufacturers specify this can significantly decrease effectiveness. Failure to use contraception properly may be down to user error, though an individual may also lack sufficient knowledge or understanding to use their chosen method effectively. The findings suggested that misinformation, bad past experiences and other practical barriers often

stood in the way of young women choosing more long-acting methods. As noted earlier, Jessica was using the contraceptive pill the first time she became pregnant following an abortion. She talked about how she was going out and drinking too much which caused her to vomit and as she took it at night, the pill may not have fully absorbed into her body. While this was obvious to her now, she did not think of it at the time.

> "Yep, 100% fine but it's not going to be any good if I'm throwing it back up. Because I used to take it at night and then just drinking and partying. But at the time again I just didn't… for some reason I mean I don't understand why I didn't because I know it with painkillers. You know if you are going to drink you don't take it do ya. So I just it's down to not being very clever and quite immature about it I suppose." (Jessica)

Sometimes the young women could not work out what went wrong and as such had not anticipated that they could get pregnant. Emma described a conversation with her partner in which she told him she had fallen pregnant whilst taking the pill. This was her third pregnancy and it initially appeared to be a good surprise, but she later discovered her partner had cheated on her making her reassess their relationship and the pregnancy.

> "And I said to him, "I'm pregnant," […] and he said, "I thought you were on the pill," and I said, "I was, I don't really know how this has happened," he said, "Have you messed up?" I said, "No, I've been taking it regularly, it's just one of those things, I'm guessing." Erm he was happy about it, and then continued with the pregnancy, and then halfway through my pregnancy he told me he'd cheated on me." (Emma)

Having a negative experience with contraception could lead the young women to mistrust that method and resort to using condoms or conversely, no method at all.

> "Er I just used condoms. To be fair I haven't been on the pill since then [becoming pregnant on the pill] because I don't want the same thing to happen… well it did but yeah. I didn't trust it because it failed and I didn't want to go through it again to be honest." (Sophie)

Few of the young women who had become pregnant whilst using contraception had accessed emergency contraception. This was partly because they were unaware of the need to do so. It was also clear that some young women were trying their hardest to protect themselves and that contraceptive failure could leave them feeling they were not in control of their bodies. Sarah, who had finally found a contraceptive pill that worked for her, split up with her long-term partner but decided to continue taking the pill so as not to fall out of the routine.

> "Just because I think because when I'd had the gap obviously before that is how it happened before so then I thought well what's the point in stopping taking it cause I'm always going to have to start taking it again if I start seeing someone so I'd rather just carry on […] sort of stay in the routine of taking it rather than stopping and thinking 'Oh god I haven't took it?' […] A lot of my friends do [stop taking it when not in a relationship] that but I just…I just thought if not I'll get out of the routine..." (Sarah)

Yet despite this commitment to avoiding pregnancy, Sarah was totally shocked to later discover she had become pregnant for a second time while taking the contraceptive pill.

8.3.3.3 Perceptions of pregnancy risk

All young women went through a process of weighing up their perceived risk of becoming pregnant following abortion, which influenced contraceptive decision-making. There appeared to be a two-way relationship between their perception of pregnancy risk and contraception use; if a woman perceived she was at low risk of getting pregnant, either based on beliefs about her own fertility or previous sexual experiences, she was less likely to use contraception. At the same time, stopping contraception for reasons such as running out, side effects or access issues made some young women re-evaluate their risk of pregnancy, especially if

they had been having unprotected sex without becoming pregnant. This process was fluid and changed with context and situations.

Perceived invulnerability to pregnancy

Some young women talked about how they felt that there was little chance they would become pregnant, despite the fact that they had been pregnant before. Having unprotected sex without apparent consequence could lead to further sexual risk-taking; meaning that a one-off event became routine behaviour. As Hannah describes below, after she stopped contraception and did not become pregnant she then began to question whether she could.

> "Yeah I just forgot about it really […] when you first have sex you're like 'Arrgh I'm going to get pregnant'. After a couple of times you're like 'Oh maybe, maybe not'. Yeah I kind of just, yeah, ignored it. Kind of thought I couldn't get pregnant'." (Hannah)

The reason for this may in part be the young women's perceptions of their own subfertility. For some this was a result of family history, while for others it was due to medical issues that could affect their fertility or beliefs about the effect of abortion on fertility. In fact nearly half of the young women implied misunderstanding about their fertility following abortion. Sometimes the young women gave more than one reason. Chloe's story contained elements of all of these. She initially talked about her mother having ovarian cysts, causing her to have miscarriages and struggle to get pregnant. When they found a small cyst on one of Chloe's ovaries the first time she became pregnant this made her doubt her own chances of becoming pregnant again. She then went on to describe how she had read online that there was a chance that you may not get pregnant following an abortion. While this scared her and made her question her own fertility, she did not discuss this with her GP or any other sexual health professional:

> "Afterwards, I sort of read up online about it all and things like that, as well. Then, seeing online that there's a chance that you can't get pregnant afterwards, and then that just kept that doubt in my head […] It was just a site that I'd just searched on Google. It said that, and then that sort of like put that doubt back in my head, that now, maybe actually I can't get pregnant. Then I was kind of scared that I would never get pregnant again..." (Chloe)

Multiple sources of information may be used by the young women to assess the likelihood that they will become pregnant. This extract serves to reinforce the influential power of informal knowledge in this process, and how misinformation often goes unchallenged.

There was also a moral suggestion in some of the explanations, in that subfertility could be a "punishment" for having an abortion. As Hollie described:

> "Didn't think anything of it and then I really thought at one point I thought… from the first time I thought I'd been punished. I can't have children again and I really thought that because it had been a while since we'd not used condoms and I thought 'Oh god, it's been like over a year' and I was still… nothing happened […] And I really started to panic. I thought that I was actually being punished and that I… because I'd gone through the first termination I thought I was being punished and that I weren't ever going to be able to have children ever again and then urgh it happened again." (Hollie)

Insecurity about fertility following an abortion could lead the young women to see whether they could become pregnant again. Even though Hollie may not have wanted a child at the time, she wanted to discover whether she was able to do so in the future. However, this could have confusing emotional consequences for the young women when they did eventually become pregnant. Hollie went on to describe how she felt a mixture of happiness and sadness when she found out she was pregnant the second time:

> "I phone up my friend and cried because I was kind of happy but I was kind of sad […] Happy that I could have children […] I know it sounds horrible but… and then erm I rang up the doctors and they said what do you want to do and I said 'I don't know what I want to do' and then I decided that I don't think I could physically cope with having a child erm and then I decided to have the termination." (Hollie)

Hollie's experience here is an example of the desire to control her fertility and own future, and as such, demonstrates how this is an existential issue for these young women.

8.3.3.4 Subsequent pregnancy intentions

It is difficult to distinguish between pregnancies which are planned and those which happen by accident. To say a pregnancy is intended assumes that a woman has made a conscious decision to become pregnant. However, often she may not be planning to have a child right now but she may not be actively trying to prevent becoming pregnant either. Moreover, feelings about the intendedness of a pregnancy can change over time. The young women in this study were more likely to say that their subsequent pregnancies were intended or that they had mixed feelings about pregnancy, meaning it occurred through passive decision-making. As Emma stated "whatever happens, happens", which implies that rather than seeking to manage her fertility, she had a wait-and-see attitude and was leaving it down to chance. Similarly, Lucy explained:

> "Well I don't know really. We were talking about it and we just… we didn't encourage it but we didn't stop it from happening." (Lucy)

As discussed in *Theme 2: Relationships and Intimacy*, there were many reasons relating to the young women's social context which influenced why they were more likely to desire a baby when they became pregnant following an abortion, especially for those whose first pregnancy ended in abortion. Naturally the young women were older, with all subsequent pregnancies occurring age 16 or over. Six were with a new partner and with this came new relationship dynamics, which

for some included greater stability, a partner with better 'father' potential or whom desired a child themselves. Three had stayed with the same partner and these relationships had become more established. First pregnancies which ended in abortion may have given the young women time to reflect on what they wanted from life. Furthermore, four young women were living with their partner's when they became subsequently pregnant and all said that these pregnancies were planned or not actively prevented.

In a few cases the young women became intentionally pregnant to replace pregnancy loss, for example that had had an abortion was for medical reasons rather than out of choice. As Emma described:

> "It was about three months later [after abortion for medical reasons], we were trying for a baby at this point, because we wanted our baby." (Emma)

Reactions to second or subsequent pregnancies also differed. Some of the young women described being happy when they found out that they were pregnant. They talked about how they had always wanted to have children or now felt ready to have a child after caring for younger siblings. Other young women said that their pregnancy had come as a shock, although they felt more prepared to deal with this than the first time. Just because a pregnancy was planned did not mean that the pregnancy was a positive experience or led to motherhood. Indeed, personal circumstances can change. In Sophie's case, as discussed in *Section 8.3.2.3*, she explained how her partner had persuaded her that having a child would be a good idea, only for him to leave her when he found out she was pregnant.

8.3.3.5 Summary

The young women had various difficulties trying to manage their fertility following an abortion, and also had different motivations towards further pregnancy which were influenced by their backgrounds, social circumstances, personal

relationships and, in some cases, the abortion itself and the circumstances surrounding it. The majority of the young women started using a method of contraception or changed method/brand post-abortion. However, some found it difficult to find contraception that suited them and either switched methods again or discontinued altogether making these young women vulnerable to pregnancy. Often the young women were dealing with a range of complexities and issues in their lives, which influenced their ability to control their own fertility. Informal knowledge and the experiences of others acted as a deterrent to them choosing long-acting methods. Issues of access were also apparent, with the young women's preferred choice not always available immediately following their abortion. This could result in delayed contraceptive use both due to a lack of agency on the part of the young women and structural barriers, such as the fragmentation between abortion and contraceptive services, variable follow-up after an abortion and the accessibility and acceptability of contraceptive services.

In some cases the young women genuinely wanted to prevent further pregnancy and were surprised and confused when they became pregnant. They often struggled to make sense of these experiences. Others had concerns about the impact of having an abortion on their fertility, especially if they had been having unprotected sex and had not become pregnant. These young women appeared to want to test their fertility over a fear that they may not be able to become pregnant in the future, even though they did not necessarily want a baby at the time. Other young women were simply willing to leave it to chance: "if it happens, it happens", while some purposively wanted to become pregnant following an abortion. What can be taken from this is that there are a complex range of influences on young women's decision-making or lack thereof about pregnancy following abortion. Understanding more about young women's primary motivations for further pregnancy may be important for prevention strategies.

8.3.4 Theme 4: Abortion care and the sexual health system

This theme relates to the role of abortion care and the sexual health system which were key contextual elements in the young women's experiences of pregnancy following an abortion. It looks at the interaction between the young women and service providers in relation to the abortion care they received, peri-abortion contraceptive support and follow-up care.

8.3.4.1 Abortion care

The young women were asked to talk about their experiences of abortion care. These accounts were extremely diverse. Part of the reason for this is that seeking an abortion is a multi-stage process involving different organisations and professionals (this is explained in Chapter 4). The young women in this study received abortion referrals via their GP or a sexual and reproductive health clinic; none self-referred to an independent clinic. Waiting times from referral to abortion varied. Some young women had immediate referrals based on medical grounds or due to late-term abortions. Others had to wait a number of weeks. In a few cases the young women either ignored their pregnancies or did not realise they were pregnant. For those attending one of the recruitment clinics, which only carried out abortions up to 12 weeks, this meant an additional referral step was necessary to a clinic that performed abortions over 12 weeks. One young woman had a failed medical abortion and because of these timing restrictions had to have a second procedure at another clinic (her second abortion). Another young woman was referred to an independent abortion clinic and then referred on to a hospital due to a medical condition. A delayed or extended referral often made the experience more difficult for the young women and harder for them to decide whether to proceed with the abortion. For instance, they might have begun to show physical signs of pregnancy or have concerns about the risk associated with later abortions. As Lauren described:

> "But if they had put me in that Thursday when I wanted to go in – two weeks earlier – they would have been able to do it there and then […] Because I've had two weeks to think and I still… I've gone from not wanting the baby to 50:50 […] Having an abortion now that's four times more risk than actually giving birth and birth is pretty risky do you know what I mean. It's the closest thing to death." (Lauren)

The above extract highlights the added uncertainty that Lauren felt about proceeding with her second abortion the further along it got, and how misinformation about risk and safety were incorporated into her decision-making.

In terms of the quality of care, some young women were happy with their abortion care and talked about how well they had been looked after by staff members. Key to this was good communication, empathy and especially after a medical abortion, receiving regular check-ups to see how they were getting on. As Chloe described:

> "When I went up the second time – well, the first time, I didn't really talk to them I was just sort of... I went into the room and took the tablet, and then they sent me off. Er the second time, though, when I had to stay there longer, obviously, it was erm the nurses were really nice there, and all the people that come in and making sure I was okay." (Chloe)

Sarah, who had attended an independent abortion clinic previously, said that she had been offered the option for regular contact with a staff member throughout the process.

> "I'd say it was better this time. But there still were people to talk to but… Because I went through the is it [independent provider] and they were really good at like offering somebody to talk to at every stage. And say like you can if you change your mind just always ring and I think because they're… you could ring them at any time in the day as well. That was quite good." (Sarah)

The extracts above highlight that those young women who had more than one abortion often had quite different experiences each time. There were some

reports of negative experiences, such as being looked down on by staff members or feeling isolated. This likely impacted on their motivation to engage with the information and advice provided at the time and may have shaped their recall of events. Sophie who had complications with her first abortion said she felt very alone throughout the experience:

> "I just got frowned on really 'Oh look it's another sixteen year old, let's just leave her in a room' basically […] I had to stay for four days. So it was quite traumatic. Erm I had complications apparently. No one actually told me anything. No one really… they just left me on my own in a room. Erm they came and checked on me whenever I went to the toilet, they came and checked on me really and that was it […] No one spoke to me about it, no one told me I could have any help or counselling, nothing. I literally just got sent home (laughs)." (Sophie)

Many of the young women talked about the need for more privacy when having an abortion but in some hospitals and clinics the young women were put on a shared ward with other women undergoing abortions or in some instances, people having a range of different procedures. This made the experience more difficult.

> "There was one thing I didn't like. At [name] hospital if you get the medical you get your own room or separate from other people. When I had mine I was in a room with twenty people and just a curtain next to us so you could hear everything. You could hear people screaming […] It's off putting." (Hannah)

8.3.4.2 Peri-abortion counselling and contraception

The young women were asked whether they were offered abortion counselling (at their consultation or at the time of the abortion) as part of their abortion care. A minority recalled that they had, though none said they had taken up the opportunity. Interestingly, there were contradictions in individual responses as to whether they would have liked to have been offered counselling. For example, Hollie said that she was not offered counselling when she had a late abortion.

When describing her emotional response after the procedure she said: "[I was] distraught about it afterwards, I just put myself in a hole for a little while and didn't do anything". However, she later explained that she would feel uncomfortable talking to another person about her experience as they would not understand what she had been through:

> "Erm well I think… obviously if they did offer me counselling I would have been… I see it like if you talk about it, I feel like nobody understands the way you do so there's no point in talking about it. Cause that other person will never understand what yourself went though and how you've were feeling. Because they weren't the ones that it happened to so there's no point talking about it (sigh)… That's why I'd rather keep things to myself because I'm alright talking about it now..." (Hollie)

In contrast, Sophie thought that even when young women do not think they need counselling, it is important for them to talk with someone, especially at such a young age.

> "I think at sixteen you need to. Even if you feel like you don't you still need that kind of ending almost like putting it to rest. Like it's quite hard to explain." (Sophie)

In no way was having an abortion described as an easy experience and for most it appeared a significant and memorable life event. Some of the young women who had a medical abortion talked quite graphically about what it was like physically to go through. However, only one young woman said she regretted having an abortion and she was already receiving counselling at the time.

The young women were asked about the contraceptive advice they received. Perceptions of abortion providers' efforts to offer information were mixed, as was the availability of their chosen method of contraception immediately following an abortion. Some young women suggested that contraception was not discussed at all but it was also apparent that if a young woman was not planning on having sex

following her abortion, she may not think that she needed to use regular contraception – although this was not openly discussed.

> "They just said do you use contraception and I went 'No' and they went 'Oh, well speak to your doctor'. Sometimes it's not that easy to speak to your doctor about stuff." (Megan)

This was not the case for all, and for some young women it had been suggested "quite firmly" that they start using a long-acting method. For example, when Hollie had a late abortion, the abortion clinic staff were insistent that she left with a methods of contraception:

> "Yeah, yeah they did suggest quite firmly that I had some sort of… they wouldn't let me leave. So I decided on the implant that time. Yes (laughs) didn't really have much choice. There was a bit of paper with all these different things on there and I said 'yes, I'd like the implant'. 'Yes, yes - you will have the implant'." (Hollie)

It was clearly helpful if time was taken to fully explain the different types of contraception and the advantage and disadvantages of each method. For example, Sarah described how the consultant at the family planning clinic where she had her abortion consultation actually showed her an intrauterine device (IUD - sometimes called the coil). This made her realise it was a lot smaller and less invasive in real life than she had imagined.

> "I'd never really been told much about that before. I thought it was like really I don't know… not surgery to have it put in but like a bit more intrusive than what it is. And I thought it was a lot bigger. They showed me a little thing of it and I thought it was going to be like that (gestures size) and they showed me it and it was like that (gestures size) I was like 'OK'. Erm and I think with that because it's… you can't forget, you can't… it's in there if that makes sense. It's done for you and it's longer term as well. So I think that's why it's drawn me to it more." (Sarah)

As well as contraception, there appeared to be a role for service providers in making young women better aware of their fertility following abortion and to

address common misconceptions about the impact of abortion on fertility. Some young women had been pregnant on more than one occasion before they fully understood how soon they could get pregnant after an abortion or giving birth.

> "No, it's just to put more awareness out that you do need to use contraception pretty much immediately […] I was only told at CASH clinic the other day how soon you can get pregnant after having a baby. I think you need to be made aware that after you've had a baby you can fall pregnant within a couple of months, and that after a termination you can fall pregnant within a week […] and I wasn't told that at [the hospital]." (Emma)

One pertinent issue was the availability of the young women's chosen method of contraception immediately following abortion, in particular long-acting methods. As explained earlier, Hannah could not have an IUD fitted at the abortion clinic straight after her procedure and was referred to her local family planning clinic. Whilst both Lauren and Megan potentially found themselves pregnant before they had the implant fitted. If left to make their own appointment with a family planning clinic or GP the young women may forget to do so or could even become pregnant in the time it took them to arrange or wait for an appointment. It was unclear from the interviews how much emphasis service providers placed on using another method of contraception in the meantime.

> "I'd prefer if they would be able to here put the contraception in... I don't know why because they can with the surgical but medical they just won't do it. Cos that would have been helpful […] Cos once you're home you just forget again." (Hannah)

There was also the issue that the second part of a medical abortion may take place at home, which could delay the insertion of a LARC method if chosen.

The young women had different priorities when weighting up the pros and cons of choosing a long-acting method of contraception. For example, Jessica, who was undergoing her third abortion, appeared to have reached the tipping point – "I've had enough"- and was planning to have the contraceptive injection rather than

continue with the contraceptive pill as she had done previously. Her comments suggest that she wished she had made this decision sooner.

> "We spoke about the implant and the injection and because of how my periods are and they were worse at that point as well they said it will either stop your period or it could get worse or blah blah blah and they said the way you are it you're probably going to be more heavier. You know. And I just thought to myself I don't want that. I can't be arsed to deal with that so that put me off. But now thinking about it now I'd rather have a heavier period and not be pregnant […] Erm, I've had enough. I think that's it. That's it really. I've just I'm not doing it again after this." (Jessica)

It appeared that those young women who were certain they did not want to become pregnant again or who had had LARC well explained, were more likely to opt for a long-acting method following an abortion. However, the findings also suggested that some young women remained reluctant to try LARC methods even after having more than one unplanned pregnancy, which suggests that the effectiveness is only one of a number of deciding factors when choosing contraception.

8.3.4.3 Follow-up care

Routine follow-up contact is considered to be an integrated part of abortion care but not all the young women stated that they received this. Follow-up appeared particularly important when contraception was not started immediately following an abortion, as often the young women had resumed sexual activity and were using a 'temporary' method or none at all before arranging to see a contraceptive service. Access was an issue for some young women, who felt awkward visiting their GP or sexual and reproductive health clinic, especially if they lived in a small town or village. Being able to access sexual and reproductive health services discretely was important to many of the young women.

> "There is like a sexual health clinic near us. But I've not really heard much about them and I know a lady that works there which I know they've got to be confidential but that puts me off (laughs). You think 'Ooh she's gonna look at me and think 'Ooh' (laughs)' and at our local GUM clinic there's people that we know as well so it's like. [Interviewer: Do you think that's… is [area] quite a small?] Yeah everyone knows everyone." (Sarah)

This became less so once they had had a child but these young women also reported issues with finding the time to go to access contraception.

> After I had my son I was supposed to go on the implant. Cos he [partner] went to college as soon as he was born, I didn't have time to go and do it. I didn't have time to get the kids ready, go out, and go and do it, cos it's one of those things where you have to go in by yourself, not with your kids and I couldn't leave them in the waiting room on their own. I don't have anyone to look after them, it's just me. (Emma)

It was also evident that even if young women were provided with contraception at the time of an abortion, some would switch or stop using their chosen method, or discontinue once the supply had run out, and consequently this highlighted the need for better integration between abortion and contraception services.

8.3.4.3 Summary

This theme has focused on the structural barriers that young women face in relation to the sexual health and abortion care system, and how this intersects with their own capacity to be agentic. Young women's experiences of patient care and support were mixed, with stigma and judgement experienced by some of the young women; which may have impacted on their ability and willingness to understand and use advice on contraception. Indeed, the young women's perceptions of contraception advice and support both before and after an abortion were mixed. Adding to this was the issue of whether or not the young women could receive their chosen method before leaving the hospital or clinic where the abortion took place. However, some young women may not recognise

the need for contraception at this stage, especially if they were not planning on having sex, and there were clearly issues with fertility awareness among the young women. The fragmentation between abortion and contraceptive services also meant that there was a lack of accountability for young women's contraception use post-abortion and not all the young women were self-directed in following this up themselves for a range of complex reasons which have been revealed in this findings chapter. The next chapter will explore these findings in relation to current literature and health behaviour theory.

Chapter 9: Discussion on young women's experiences of pregnancy following an abortion

The previous chapter presented the findings from an Interpretive Phenomenological Analysis of qualitative interviews with a small sample of ten young women who had become pregnant following an abortion. In this chapter, the findings will be explored in relation to current literature with the intention of identifying what the research shares with, and what distinguishes it from, other studies in this area. The overall aim of the discussion is to draw conceptual links between the four superordinate themes, deepen the interpretive process and incorporate formal theory in order to gain a better understanding of the different aspects of the young women's experiences and the influences on their sexual and contraceptive behaviour. Since the research has been designed to inform policy and practice, the discussion will be structured around translatable messages.

9.1 Discussion

In this discussion, the current language used to describe teenagers who have more than one pregnancy will be considered. It will be argued that this serves to stigmatised the young women rather than recognise the complexity of their sexual and reproductive lives, and their personal circumstances. This complexity is reflected in the multifaceted reasons the young women gave when trying to making sense of their experiences of pregnancy following an abortion. It will show how the meaning and importance of the young women's sense of self in relation to their bodies, perceptions of vulnerability, and relationships with others often changed over time. Finally, it will draw the findings together using existing theories of health behaviour before presenting a diagrammatic representation of the different processes influencing subsequent teenage pregnancy which might be used to inform further research. In doing so, it will show that individuals cannot be seen in isolation from broader sociocultural norms, service provision and government policy.

9.2.1 Rethinking the language of 'repeat' teenage pregnancy

The meaning attached to language can influence popular attitudes and induce stigma, through which a person is devalued based on a shared understanding of a particular attribute (Herek, 2009). Therefore, it is important to critically consider the language used to refer to teenagers who have more than one pregnancy. Until recently, the favoured term was 'repeat pregnancy' or when looking at the same reproductive outcomes, 'repeat birth' or 'repeat abortion'. There was little questioning of how this language presented the young women or impacted on their sense of identity. Societal views of teenagers who have more than one pregnancy are highly contextualised and build on discourses relating to teenage pregnancy, young motherhood and abortion. These discourses are myriad and conflicting, though the predominant message is a negative one. This section will consider popular representations of pregnancy in adolescence before returning to the role of language and drawing on the research findings to challenge the use of the term 'repeat pregnancy'.

In contemporary society, becoming pregnant as a teenager is perceived as a social transgression from the expected life course (Koffman, 2015; Luttrell, 2011; Whitehead, 2001); whereby to successfully navigate the transition to adulthood a young woman must avoid conceiving. Those who fail are often assumed to be promiscuous, irresponsible, and lack a sense of morality. Most pregnant young women will have to decide whether to continue with their pregnancy or not. Popular discourses underline these choices, even if they do not invariably determine them (Hoggart *et al*, 2015). For instance, teenage mothers are often depicted as being caught in a cycle of welfare dependency (Kelly, 1996), a view which can hold them individually accountable for structural challenges such as deprivation and social exclusion (Shaw, 2010). There is also the widely-held presumption among the British public that young women have babies for financial gain and automatic entitlement to council housing, despite research to the contrary (Gauthier, 2007; Wilson & Huntington, 2006).

For those young women who choose to end their pregnancy, abortion stigma can be a dimension of their experience. This is a highly dynamic concept, which Kumar *et al* (2009) considered to be situated within the interactions of local cultures and communities. Consequently, in some circumstances having an abortion may be perceived as more or less shameful than others but the enactment of prominent discourses often disembodies and de-contextualises abortion experiences (Jelen & Wilcox, 2003). Young women are likely to be aware of anti-abortion views (Cockrill & Nack, 2013) which maintain that deliberately ending a pregnancy challenges ethical and moral principles, and is at odds with the 'essential nature' of women (Kumar *et al*, 2009). Negative self-judgement is therefore one way in which abortion stigma presents itself. The anticipation of negativity can lead to secrecy and selective disclosure. As such, abortion stigma has been referred to as a 'concealable' stigma, unknown to others unless shared (Quinn & Chaudoir, 2009) and hence the issue becomes one of information control: "To display or not to display; to tell or not to tell; to let on or not to let on; to lie or not to lie; and in each case, to whom, how, when and where" (Goffman, 1963, p. 42). However, just as stigma can silence those who have an abortion, this pervasive silence also perpetuates stigma (Kumar *et al*, 2009).

Not all young women will feel stigmatised by pregnancy or abortion, nor have assumptions about age always defined when a woman should become a mother (Luker, 1999). Koffman (2015) argued that there is little question that teenage pregnancy is a situated phenomenon of recent decades. As discussed in Chapter 2, until the 1970s 'unwed mothers' and 'illegitimate children' were seen as more significant and therefore the focus of concern. However, what these shifting social norms highlight is that young women's sexual behaviour and pregnancy decision-making occur within the context of prevalent ideologies, even though these often over-simplify complex situations (Link & Phelan, 2001). Stigma around so called 'repeat pregnancy' among teenagers may be even stronger and Hallgarten (2014) argued that this term has negative connotations and masks the complexity of experiences. She suggested that the way a young woman becomes

pregnant, her contraception choices and how effectively she is able to use contraception may differ from one pregnancy to the next. Similarly, in a qualitative study of women who have had more than one abortion, Weitz and Kimport (2012) reported that each pregnancy occurred in different social and behavioural situations. Therefore, using the term 'repeat' can be significantly misleading and at odds with women's own experiences.

In this study these negative discourses of teenage pregnancy and abortion often framed the young women's narratives, both in terms of what they were prepared to share and how they recalled their experiences (Plummer, 2003). Some chose to only disclose certain information towards the end of the interview when a degree of trust had been established, while others offered explanations with the acknowledgement that their behaviour may be perceived as wrong. As the young women shared their stories the different circumstances and consequences of each pregnancy became apparent. Following an abortion, contraceptive and sexual behaviours often changed, as did partners, relationship statuses, motivations towards pregnancy and other life events, which all uniquely combined to influence the likelihood of further pregnancy. Some of these changes were lasting while others were temporary and were influenced by a range of fluctuating factors. It is therefore argued that a more nuanced understanding of teenagers who have more than one pregnancy is needed, and to move away from the term 'repeat' as this does not reflect the young women's experiences and could negatively impact on public understanding of this complex issue. Framing the issue as one of carelessness or ignorance may also detract from the young women's support needs and can delay access to services. This is not to say these young women should be treated any differently to young women presenting with a first pregnancy, but non-disclosure of previous pregnancies and abortions can make it difficult for health professionals to target support and address unmet needs. This was certainly the case in this study, and with abortion, maternity and contraception services often being delivered separately; confidentiality meant providers were sometimes unaware of the young women's full pregnancy history.

As a result of this finding, terms such as 'teenagers who have more than one pregnancy', 'subsequent pregnancy' or 'previous pregnancy' have been used throughout this thesis.

9.2.2 Young women's motivation to avoid further pregnancy

Pregnancy planning is a complex concept and, although there are variations in definitions, traditionally these have assumed that pregnancy is a rational and active choice (Barret *et al*, 2004). Newer conceptual models recognise that women can hold a range of positions in relation to intentionality of becoming pregnant, and these are not always congruent with behaviour. As van der Sijpt suggested "decisions are often not the result of rational calculation and reproductive happenings do not exist in a social vacuum" (2014, p. 278).

This means that women's attitudes toward pregnancy are often complicated and sometimes contradictory, and will be affected by different motivations at different times. Even those who are keen to avoid pregnancy may be inconsistent users of contraception and the conscious choice to have a child will be socially situated and not always autonomous. As such, 'decision' may be more formal than the reality for many women, especially younger women, as they are the least likely reproductive age group to plan pregnancies (Wellings *et al*, 2013). Findings from the Natsal-3 survey also showed that among women of fertile age, four in ten planned or ambivalent pregnancies ended in abortion (*ibid*). Thus pregnancy intention may differ from outcome, and Wellings *et al* cautioned against considering abortion synonymous with unplanned pregnancy. Despite the complex nature of pregnancy intentions, this remains an important concept for trying to understand young women's fertility-related behaviours and their specific support needs.

The young women in this study reported various motivations towards pregnancy following their first abortion: five said their subsequent pregnancy was unplanned, three said it was planned and the remaining three were "not trying,

not preventing" (including one who was concerned about her fertility). Half of the young women had been pregnant on three or more occasions by the time of their current pregnancy and again, motivations toward these pregnancies varied. The findings from the scoping review in relation to having an intended pregnancy and risk of a subsequent pregnancy were somewhat mixed. However, there was a clearer relationship between positive attitudes towards future childbearing and the likelihood of a subsequent pregnancy occurring. As Matsuhasi *et al* (1989) concluded: "many girls who become pregnant more than once appear to do so intentionally" (p. 402).

In a US study using data from the NSFG, Boardman *et al* (2006) explored factors associated with intended or unintended subsequent teenage pregnancy (whereby a first pregnancy could have ended in live birth or stillbirth, ectopic pregnancy, miscarriage or abortion). The findings indicated that 34% of subsequent teenage pregnancies occurring within two years of the resolution of the first were intended. Factors associated with an increased likelihood of having an intended subsequent pregnancy were: having an intended first pregnancy, prior poor obstetric outcome (miscarriage or stillbirth) and a partner who wanted a subsequent pregnancy. However, one of the limitations of this study was the dichotomous reporting of pregnancy intentions, which meant that an intended pregnancy outcome also included those young women who were ambivalent about having a subsequent pregnancy. Moreover, retrospective measurement of pregnancy intentions, as used in the NSFG, may result in recall bias and failure to capture the complex and dynamic nature of pregnancy intentions.

It has been suggested that some teenage mothers choose to have a subsequent child in order to complete their family before returning to education or employment. They may also want their child to have a sibling and/or for their children to be close in age (Cater & Coleman, 2006; Rowlands, 2010). However, motivations towards pregnancy following an abortion may differ. This study found that when young women planned their pregnancies this was affected by a

number of contextual factors, such as the presence of a new partner who wanted to have a child or being in a stable relationship. For some young women having a child was considered to be a sign of love and long-term union. Indeed, Herrman (2007) reported that some teenage mothers made the conscious decision to have a child to encourage commitment from a partner. Intentions were often directly or indirectly influenced by the young women's own unstable backgrounds and negative childhood experiences, and this was likely compounded by deprivation-based inequalities and their limited aspirations for the future. In a study looking at teenagers who planned to become pregnant, Cater and Coleman (2006) reported that most of the young women interviewed saw motherhood as an opportunity to change their lives, gain a sense of independence and have a loving family of their own. As the majority of first abortion experiences among the young women in this study were also first pregnancies, feeling "too young" was a mediating factor in abortion decisions-making. Thus, the young women who planned their subsequent pregnancies may have always had positive-leaning attitudes towards early childbearing but differentiated between very young motherhood and motherhood in the later teenage years. Moreover, pregnancy intention is not a static concept and can be affected by shifting personal circumstances, relationship dynamics and past pregnancy experiences.

Only one young woman had given birth prior to her first abortion and she had felt pressured into the decision to end her pregnancy. Consequently, she expressed feelings of regret. In a study of abortion and subsequent abortion among young women in London, Hoggart *et al* (2010) found that when decisions were influenced by others or young women felt they had made the wrong decision, they may want to become pregnant again in order to keep the child. This suggests that these young women were provoked by an emotional reaction which motivated them to take back control of their fertility or re-enact their fertility desires, and in this way being agentic. This is consistent with another rationale for intended subsequent pregnancies, that is, the experience of loss following a previous pregnancy outcome. Qualitative studies have suggested that young

women who have a miscarriage, stillbirth or abortion might feel a sense of loss and emptiness, especially if the baby had been wanted (Clarke, 2010, Hoggart *et al,* 2010). Among the young women interviewed for this study, this was certainly the case for Emma, who described a sense of bereavement after her first pregnancy was terminated for medical reasons and so she began trying for another baby soon after. Quantitative studies have looked at the association between prior poor obstetric outcome and subsequent pregnancy among teenage mothers. A number showed that previous miscarriage or stillbirth may increase the likelihood of further pregnancy (Coard *et al,* 2000*;* Pfitzner *et al,* 2003, Stevens-Simon *et al*, 1996a, 2001). However, these findings were disputed in other studies (Barnet *et al,* 2008; Crittenden *et al,* 2009; Raneri & Wiemann, 2007).

Not all of the young women were clear about their attitude towards pregnancy following an abortion and they appeared to be neither planning to become pregnant nor actively trying to avoid pregnancy. These views could change from one moment to the next depending on personal circumstances. There were a number of explanations as to why teenagers might be ambivalent towards pregnancy, including a degree of fatalism, passivity or concerns about fertility (Hoggart, 2006, Free *et al*, 2002; Polis & Zabin, 2012). The push and pull of reason and emotion, along with cultural influences, likely impacted on conflicting desires towards pregnancy (Higgins *et al*, 2012). Such pregnancies have been described as 'predictable but not predicted' whereby young women take their chances and hope for the best (Hoggart *et al*, 2015). This was certainly the case for some of the young women in this study, and was compounded by partners who were willing to take the risk of having unprotected sex or had their own pregnancy intentions. Misunderstandings about fertility also featured in the young women's accounts. This will be discussed further in the next section. A number of studies have found that teenagers who are ambivalent towards pregnancy are less likely to use contraception (Brückner *et al*, 2004; Frost *et al*, 2012; Stevens-Simon *et al* 1996b) and inconsistent or conflicting pregnancy intentions have also been

associated with pregnancy risk in some studies (Jaccard *et al*, 2003) but not others (Brückner *et al*, 2004).

Almost half of the young women in this study described their subsequent pregnancy following their first abortion as unintended. Some misperceived their risk of pregnancy following an abortion or did not realise that they were fertile straightway. Others were unsure if they were able to get pregnant or appeared to lack motivation to avoid pregnancy. Struggling to find a contraceptive method which worked for them also led to contraceptive switching, leaving the young women vulnerable to pregnancy in the gap between ending one method or brand and starting another. Some also discontinued their contraceptive method either due to dissatisfaction, issues with negotiating contraceptive use or linking back to the earlier point, perceptions of their own fertility. Similar findings have been reported in other studies (Herrman, 2007, Hoggart *et al,* 2015). Each of these themes will be discussed in more detail in the remainder of this chapter.

The involuntary nature of some sexual activities is another factor which has been associated with subsequent unplanned pregnancy (Herrman, 2007). However, this was not directly the case in this present study, although non-voluntary sexual experiences were linked to earlier pregnancies for one young woman and the onset of sexual risk-taking for another. Some young women described being in manipulative relationships in the past and it is likely that they found it more difficult to refuse sexual activity or negotiate contraceptive use. Among the young women in the study by Boardman *et al* (2006), those who had an unintended subsequent pregnancy were more likely to have experienced a prior poor obstetric outcome and have a history of non-voluntary early sexual experience, compared with compared with young women experiencing one teenage pregnancy only.

The findings from this study show that young women have different attitudes and motivations towards preventing pregnancy following an abortion. While these

were not always concurrent with sexual behaviour and contraceptive use, developing a clearer understanding of pregnancy intentions following an abortion will help ensure service provision is more appropriate and effective in helping young women to manage their fertility.

9.2.3 Misperceived risk and fertility myths

A common theme in some of the young women's stories was that they had misperceived their risk of pregnancy and, perhaps not surprisingly, this was a factor in first-time pregnancies and further subsequent pregnancies as well. In an attempt to better understand the reasons why women might perceive that they are at low risk of pregnancy, Frohwirth *et al* (2013) conducted interviews with young women (primarily aged 20-24) at abortion clinics. Four main themes emerged: perceived invulnerability to pregnancy, perceiving themselves or their partner to be less fertile, not thinking about the possibility of becoming pregnant at the time, and perceived protection from using contraception. To varying extents, all of these themes were substantiated by the findings from this present study and will be explored in turn alongside other literature. However, what makes the young women's perceptions of pregnancy risk particularly interesting, in the context of this research, is that they had been pregnant before and therefore were evidently fertile.

Perceived personal invulnerability to pregnancy occurs when young women think they are at a low risk of becoming pregnant: the 'it won't happen to me' belief (Frohwirth *et al*, 2013). Such egocentric thinking (Elkind, 1967) has been associated with the propensity to engage in a wide number of risk behaviours, and is thought to be heightened in adolescence (Wickman *et al*, 2008). The outcome of having unprotected sex is uncertain, in that it may or may not result in pregnancy or an STI whereas, in most circumstances, the immediate experience of sexual gratification is guaranteed. Research has shown that some young women fall into a pattern of having unprotected sex over time as they lose their

fear of pregnancy and this impacts on their *perceived need* for contraception. In a qualitative study looking at perceptions of pregnancy risk and use of emergency contraception, Williamson *et al* (2009) described how young women in more established relationships can find themselves in a situation where they have sex without using contraception, perhaps due to issues with access or not expecting to have sex, and when they do not become pregnant this can lead to further risk-taking. As Reyna and Farley (2006) suggested, adolescents mentally weigh the risks of an action against perceived benefits. If those risks are only engaged in 'only once or twice', then the odds may appear favourable. If this happens numerous times without consequence then a young woman may think she is at low risk of pregnancy or even subfertile, until the day eventually comes when she does become pregnant again. These findings have been supported in other studies (Free *et al*, 2002; Hoggart *et al* 2010, 2015). Williamson *et al* (2009) also found that young women who considered themselves to be at low risk of pregnancy were less likely to use emergency contraception.

In this study, reasons for discontinuing contraception included: running out, the unplanned nature of sex and an inability to find a suitable method. Side effects appeared to be a major trigger for non-use. When these became intolerable some young women stopped using their chosen method, consequently prioritising the immediate relief of adverse effects over the possibility of future pregnancy. At first this may have been intended as a temporary break but in some cases the young women never went back to using contraception, while for others the decision to stop was fuelled further by other reasons, such as ambivalence towards pregnancy, a fatalistic attitude or no longer wanting to put hormones into their bodies. Condoms were often rejected as they are not conducive to spontaneity or a partner may not want to use them and other barrier methods were rarely considered. Some young women resorted to the 'pull-out' (withdrawal) method as an interim step before stopping completely but this is less effective than other methods of contraception and also relies on male self-control (Bajos *et al*, 2003b).

In terms of perceived subfertility, this could be due to concerns that abortion causes problems with conceiving, medical reasons or family history. Widespread myths that abortion leads to infertility can make some young women anxious about their ability to become pregnant again, and in some cases they will seek to 'test' this by having unprotected sexual intercourse (Hallgarten & Misaljevich, 2007; Hoggart *et al*, 2010). In a qualitative study looking at the relationships between perceived infertility and contraceptive behaviour in the US, those young women who doubted their fertility were more likely to report having sex without contraception (Downs *et al*, 2004). In this study, two young women talked about having these concerns prior to becoming subsequently pregnant following an abortion; although what cannot be determined is whether this encouraged them to have unprotected sex in the first place or whether this is how they rationalised their behaviour when they did not become pregnant. Other potential reasons for a misperceived risk of pregnancy were medical issues or a family history of fertility problems. For example, during Chloe's first pregnancy a small cyst on one of her ovaries was found (which can sometimes make it harder to become pregnant). Along with a poor understanding of her fertility and her mother having ovarian cysts, which were thought to have caused early miscarriages, these issues cumulatively led her to believe she might not be able to get pregnant again. Hoggart *el al* (2015) similarly found that underlying medical issues could negatively impact on perceptions of fertility.

Not considering the possibility of conceiving at the time appeared to be most connected with the period immediately following a pregnancy outcome. Some of the young women in this present study described how they were unaware of how soon they could ovulate after an abortion. Recent guidelines on contraceptive provision to under-25s acknowledges this point, recommending that health professionals need to "dispel the myth that there is no need for contraception after an abortion and explain that women are fertile immediately following an abortion" (NICE, 2014a, p. 17). The study by Frohwirth *et al* (2013) also identified that 'acute disruptions' such as sexual coercion, interpersonal violence, mental

health issues or the influence of drug or alcohol use, may be a reason for not thinking about the consequences of sexual behaviour at the time. While these featured in the young women's accounts (particularly in relation to first pregnancies) and may have impacted on contraceptive use, it was not necessarily because they had not considered the possibility of pregnancy. Some may not have been motivated to prioritise pregnancy prevention or may not have been in a position in which they perceived that they had control over this.

The last theme relates to the role of contraception in offering protection from pregnancy and consequently those using it thinking that they have a low risk of becoming pregnant. This theme is discussed in further detail in *Section 9.3.4*. Four young women said that their subsequent pregnancy following their first abortion was the result of user or contraceptive failure. These were also given as reasons for additional subsequent pregnancies. The young women were often surprised and did not fully understand why they had become pregnant. For example, Jessica said that before her second pregnancy she often vomited after drinking too much and only with hindsight did she recognise this could have impacted on the effectiveness of her oral contraceptive pill. Others pointed to perceived errors made by healthcare providers as to why they did not think they could become pregnant, for example if they were using a LARC method such as the contraceptive implant. These young women may have either been pregnant before it was fitted, if a pregnancy test was not done, or became pregnant while using it; though the former of these suggests a level of sexual risk-taking occurred before an effective method of contraception was initiated. Further still, some young women could not identify any particular reason as to why contraception had failed them.

According to health behaviour theories, if an individual has not experienced a behavioural consequence from a past risk then their perceived susceptibility of a negative outcome may be lower (Snyder & Rouse, 1992). In this sense, Kershaw *et al* (2003) proposed that young women who have been pregnant recently

should feel more vulnerable to future pregnancy than young women who had never been pregnant. However, sexual consequence (i.e. pregnancy) was found to have a negative influence on perception of pregnancy risk. Pregnant teenagers in the study considered themselves to be at low risk of subsequent pregnancy within the next year. The findings provided no insight into the reason for this, but the authors suggested this may have been due to 'motivational desire' (i.e., "There is no way I am getting pregnant again.") or because they had made contraceptive plans during pregnancy (i.e., "I will not get pregnant because I plan to consistently use condoms and the pill.") (p.431). As such, young women beliefs and behaviour may not always be synonymous, and it cannot be assumed that they will act in accordance with what appears rational or routine (Ingham & van Zessen, 2007). Perception of pregnancy risk is therefore only a part of understanding young women's sexual and contraceptive behaviours following an abortion, as other personal, practical and structural conditions will likely impact on these behaviours.

9.3.4 The imperfect world of contraception

Contraception has an important role to play in reducing first-time teenage pregnancies and in helping young women who have become pregnant to manage their subsequent reproductive lives. All of the young women in this study remained sexual active after having an abortion and their subsequent 'choices' about contraception, uptake and continuation were influenced by a range of factors. Even when contraception was being used, there was no guarantee that this would prevent pregnancy as each method offers a different level of protection depending on the type and whether it has been used correctly. A number of common, interrelated themes emerged from the interviews in relation to post-abortion contraception, including: contraceptive planning and access, influences on contraceptive decision-making, discontinuing and switching methods, and contraceptive efficacy. Each of these will now be discussed in turn.

9.3.4.1 Post-abortion contraceptive planning and access

There has been limited research specifically looking at contraceptive planning and access among young women following an abortion, especially within a UK context. However, women who present for an abortion have already demonstrated that they are fertile (Heikinheimo *et al,* 2014) and may have had difficulties practicing safe sex in the past. One recent multi-methods study (Bury *et al*, 2014, 2015; Hoggart *et al*, 2015) sought to address this gap by looking at the experiences of young women under-25 having an abortion with an independent provider in the UK. The majority of respondents to the survey stated that they had been given contraception at the time of their abortion (79%). No differences were identified between those young women who were having an abortion for the first-time and those who were having a second or subsequent abortion in terms of contraceptive uptake; although the latter group were significantly more likely to commence a long-acting method following their abortion (59% vs. 74% respectively).

The findings from this thesis showed a very mixed picture of contraceptive planning and provision surrounding young women's abortions. Contraception was typically discussed either at the referral, the abortion assessment or the abortion procedure - sometimes at all of these. However, the quality at each stage was variable and some young women said that they had not been offered a contraceptive consultation at all or if they had, providers had not taken the time to fully explain the range of options available. Other young women did not want to start contraception either because they were planning to become pregnant in the near future or were not thinking beyond the abortion experience. This latter finding was supported in the study by Hoggart *et al* (2015), which suggested that some young women were unable to engage with contraceptive advice at what could be a stressful and emotional time for them. Other young women in the study wanted more time to consider their contraceptive options before making a decision. When young women have an abortion they receive large amounts of

new information and consequently they may not be able to retain all the contraceptive advice they receive. Although, equally, this may be precisely the time when they will be most motivated to avoid further pregnancy.

In this study, some young women reported positive experiences of the staff they encountered during the abortion process, while other felt they were judged. Hoggart *et al* (2010) reported that negative abortion experiences were often coupled with feelings of unmet need. While Lee *et al* (2004) found that the quality of care offered by abortions services varied and there was inconsistent access to abortion in the second trimester, increasing the number of services a young woman may need to engage with. This was certainly the case in this study and added to the complexity of abortion experiences.

Current NICE guidelines stipulate that young women should be provided with advice about the full range of contraceptive options available and supported to identify a method which suits their needs both before and after an abortion (NICE, 2014a). Indeed, receiving good quality contraceptive advice has been found to promote better acceptance of a method and continued use (RamaRao *et al*, 2003). Some studies have explored the effects of enhanced contraceptive counselling on uptake of long-acting methods of contraception and subsequent unplanned pregnancies. None of these have specifically focused on young women under-20, so studies among women of fertile age must be relied on. A recent systematic review and meta-analysis identified six randomised control trials (RCTs) looking at specialist abortion contraceptive counselling (Stewart *et al*, 2016). This found no evidence of increased uptake of contraceptive use or reduced subsequent unplanned pregnancies. Only one of these studies was carried out in the UK (Schunmann & Glasier, 2006) and this found that, while enhanced provision of contraceptive advice increased uptake of long-acting methods, this was short-lived and did not reduce subsequent abortions. Another study which used abortion records at a UK clinic found that dedicated pre-abortion contraceptive counselling could 'dramatically' increase post-abortion

contraceptive uptake, especially for more effective methods (Yassin & Cordwell, 2005). Consequently, this supports the findings from this thesis which suggested that young women may change or discontinue the method they choose following an abortion if they are not happy with their chosen contraceptive method. This is discussed in further detail in *Section 9.3.4.3*.

Once the young women had decided on which method of contraception was right for them, there was also the issue of availability at the time of their abortion and often it was left to the young women to seek out contraception from another service provider. This was especially the case if the young women had decided on a LARC method. Indeed, one of the challenges with implants and intrauterine contraception is that many health professionals lack the time or necessary skills to insert them (Wellings *et al,* 2007). It may also depend on whether providing LARC has been commissioned as part of the abortion service contract (Hoggart & Phillips, 2011). Another issue is that an increasing number of women return home after taking the second abortion tablet (Misoprostol) to allow the pregnancy to pass. This means that it is not possible for an intrauterine device to be inserted immediately after (Cameron *et al*, 2012).

This study found that when young women left an abortion clinic without a method of contraception, they may not make their own arrangements to access contraception from another provider or may delay doing so; thus, leaving themselves vulnerable to pregnancy. The study by Bury *et al* (2015) reported that of the minority of young women who left without a method of contraception following their abortion, 61% had not been to see another contraceptive service provider by the four-week follow-up survey. It is possible that some of these young women may have been planning to become pregnant again. Hoggart *et al's* (2010) research, which captured the views of abortion providers and other associated healthcare staff, reported poor engagement with sexual and reproductive health services by teenagers after abortion. Referral pathways were also said to be unclear, and there were concerns about a lack of post-abortion

follow-up care. Another study showed that less than one third of women who were scheduled to have an intrauterine device fitted at a later date did not subsequently attend their appointment (Stanek *et al*, 2009). A further issue, identified in this thesis, concerned some of those young women opting for a user dependent method of contraception at the time of their abortion, such as the oral contraceptive pill, only being given one month's supply, after which they may not go back to get more. Meyrick (2001) argued that this suggested a 'spiral relationship' developing around contraception use and access to contraceptive services, whereby only a 'crisis' would force the young women to go back to the service and by this time it may be too late.

While the evidence appears to suggest that the immediate provision of LARC contraception post-abortion is preferable, this can sometimes be difficult to organise, especially with the increasing use of medical abortion and home administration of the second pill. Furthermore, there is ongoing debate about which service providers are best placed to provide contraceptive advice. In the study by Hoggart *et al* (2010), some key informants did not think that abortion providers had the time or necessary skills to provide comprehensive contraceptive consultations and that this was best delivered by specialist contraceptive services. Perhaps, more importantly, there is the need to balance women's reproductive autonomy with the promotion of LARC methods (Gomez, 2015).

On a final note, some participants identified barriers to obtaining contraception, such as not wanting to see male doctors, living in a small town or village, and lack of knowledge regarding the different methods. Rowlands (2000) found teenagers more likely than other age groups to use emergency contraception but uptake remains low. Judgemental attitudes of healthcare professionals was cited as a barrier to access. Few of the young women interviewed for the qualitative strand of this thesis had used emergency contraception and access was implied as a barrier. However, often it was a lack of perceived need. Perhaps if the young

women had the emergency contraception pill at home they would have been more inclined to use this but often inconsistent or non-use of contraception had become a behavioural pattern, so deciding on emergency contraception use was equivocal.

9.3.4.2 Influences on contraceptive decisions

A systematic review of qualitative studies looking at young people's contraceptive choices in the UK suggested that a range of complex factors influence decisions about contraception. Increasing knowledge in itself may not result in safer sexual behaviours or a reduction in unplanned pregnancy (Baxter *et al*, 2011). These factors likely include: access to contraception, views regarding different methods (e.g. effectiveness, ease of use, safety), knowledge, personal beliefs and motivations, societal influences and relationship factors (Pratt *et al*, 2014). Contraceptive use is a dynamic behaviour and the influence of each of these factors may change over time depending on new information, experiences, and situations (Free *et al*, 2005). As some of these factors have already been considered, this section will focus on the young women's choices and behaviour regarding different methods of contraception immediately following an abortion and the influences on these. The next section will then look at changes in the young women's contraceptive use over time.

Before the young women in this study had their first abortion, many were not using contraception effectively. Five reported using no contraception at all (although one of these pregnancies was the result of rape), two had issues taking the contraceptive pill consistently and another young woman did not safely switch from one contraceptive pill to another. The remaining two said that the contraceptive pill had failed them. Contraceptive use after abortion improved but often this was short-term and many of the young women were reluctant to try LARC methods. All the young women except one were apparently motivated to prevent pregnancy following their first abortion and therefore planned to or

initiated a method of contraception, as in other studies of women following abortion (Jones *et al,* 2002; Schunmann & Glaiser, 2006). Paukku *et al* (2003) reported that among sexually active young women, those with a previous abortion were three time more likely to use hormonal contraception than 'never-pregnant' young women. Among the young women interviewed for this thesis, two moved from using no contraception at all to a user-dependent method (although one of these young women was planning to have an IUD fitted but became pregnant before this happened)**,** five remained on a user-dependent method, and two had the contraceptive implant fitted.

The young women in this study held various views regarding the different methods of contraception and which one was right for them. These were strongly influenced by their personal experiences, social networks and relationship status – often a combination of all three. If the young women had a negative experience with a particular method of contraception, or they had heard a negative story second-hand, then they were less likely to choose that option for themselves. This 'informal knowledge' from friends or the media was often prioritised over professional advice, and is a theme which has been corroborated in other studies (Glasier *et al* 2008; Hoggart *et al* 2010). Personal experiences with different methods of contraception prior to abortion also impacted on the young women's choice of contraception. Hoggart *et al* (2015) found that negative experiences with certain methods meant the young women were less likely to choose those methods following their abortion, especially LARC. Familiarity is also thought to influence contraceptive choices (Glaiser *et al*, 2008; Spies *et al*, 2010) and in the same study, Hoggart *et al* found that the contraceptive pill was perceived as the 'go to' method of contraception, both in terms of personal and social acceptability. In this study, the contraceptive pill was by far the most common type of contraception used. Young women who were using this method before an abortion were likely to continue using it afterward if they could rationalise why it had let them down; for example, not using the method consistently or gaps when switching methods. Concerns about LARC often meant that these methods were

often ruled out without full consideration. One of these concerns may be due to the young women's perceived lack of control over their own bodies and fertility (this is also discussed in *Section 9.3.4.3* as a reason for discontinuation) and is part of the uncertainty that many expressed at different times. In other words, LARC takes away agency both in terms of the young women's ability to chance conceiving and their ability to stop/remove contraception.

The scoping review carried out for this thesis highlighted that LARC methods have an important role in delaying or preventing subsequent pregnancies in teenage mothers (e.g. Tocce *et al*, 2012; Lewis *et al*, 2010a, 2010b; Stevens-Simon *et al*, 2001). However, long-acting methods may not be acceptable to all young women, and even those who initiate usage may subsequently discontinue or switch methods. Research suggests that social norms and the experience of others can strongly influence LARC uptake (Bharadwaj *et al*, 2012; Madden, 2014; Williamson *et al*, 2009b). Bharadwaj *et al* (2012) surveyed young women aged under 22 in a contraceptive and sexual health clinic in London and found that knowing peers who had a positive experience with LARC could encourage young women to try a long-acting method themselves. However, fear of needles, fear of pain, not wanting a 'foreign' object inside the body, along with concerns about bleeding, future fertility and weight gain were all given as reasons for not choosing a LARC method. Williamson *et al* (2009b) interviewed 20 young women in Scotland and reported that the negative experiences of friends could put young women off choosing a LARC method. Specifically concerning the contraceptive injection, they had heard stories about weight gain, potential infertility and it taking a long time to conceive after stopping use. Many young women appeared to accept this information and not question its accuracy. However, interestingly, knowledge of negative experiences did not appear to put the young women off using oral contraceptives. Focus groups with college and university students, as well as mothers found that concerns about the fitting and removal procedures, not being able to stop without seeing a healthcare professional, potential impact

on fertility and side effects all impeded uptake of long-acting methods (Glaiser *et al*, 2008); although ease of use was seen as an advantage.

In this study few of the young women had received information about LARC methods at school, and the extent to which they were explained by healthcare professionals varied. This meant that while all were aware of long-acting methods how much they knew about individual methods (e.g. implant, injections, IUD/ IUS) may have been limited. Only two young women opted for the contraceptive implant following their first abortion but both reported that their decision had been strongly influenced by service providers at the time. Another young woman was also planning to have an IUD fitted but became pregnant before this happened. However, following the young women's most recent pregnancies, most were planning to subsequently use a LARC method. For some this was because they had reached a tipping point, where effectiveness and pregnancy prevention was prioritised over other concerns. For others, the quality of contraceptive advice appeared to be important. In one example from this present study, the IUS/IUD was described and showed to Sarah during her second abortion assessment appointment. She was surprised by how small it was and opted for this method. In the study by Hoggart *et al* (2015), those young women who chose more reliable, long-acting method of contraception following an abortion did so for a variety of reasons, including: already having children and not wanting any more, increased self-awareness that they might have difficulties with user-dependent methods, being very sure that they did not want to become pregnant again, and not having considered LARC methods before because they had not been fully explained.

Research has shown that young women may have anxieties about hormonal contraception and would prefer their bodies to remain natural (Cheung & Free 2004; Walker 2012). This was clearly an issue for a few young women in this study. When unwanted side effects were experienced this led them to switch to a barrier method or to stop altogether, rather than trying another type of hormonal

contraception. This is discussed further in the next section but it is worth noting that for one young woman, concerns about the interaction of the contraceptive pill with another medication led her to distrust hormonal methods. Therefore, following her abortion, she switched to a less (rather than more) effective method. Relationships can also play an important role in contraceptive decision-making and some studies have shown that women may be less likely to use a regular contraceptive method if they are not in a relationship, especially the more effective methods (Frost *et al*, 2008; Hoggart *et al*, 2013). However, Bury *et al* (2014) found no difference in post-abortion contraceptive uptake based on relationship status. This did not appear to be a strong influence on the young women's contraceptive decisions immediately following an abortion in this study either. Indeed, each of the young women described specific issues and situations which resulted in their contraception use and non-use, situated within the context of their own personal lives.

Young women in this study mentioned a number of well recognised factors in determining their choice of contraception post-abortion. While knowledge and access to contraception does not guarantee use (Steven-Simons *et al*, 1996b), familiarity with different methods was clearly important and popular stories about different methods from friends and other sources had a strong influence on the young women's contraceptive choices.

9.3.4.3 Resuming, switching and discontinuing methods

Some of the young women in this qualitative study had been struggling to find a method of contraception which worked for them prior to having abortion. Most had been using the contraceptive pill, which is most commonly used among teenagers, along with condoms. Around half of the young women had either switched brands due to intolerable side effects or discontinued use altogether. Unsurprisingly, some continued to experience difficulties with contraception following their abortion. In a recent study by Wellings *et al* (2015), it was

identified that younger women more frequently changed methods of contraception or discontinued them, placing them at risk of unplanned pregnancy. Common reasons given for stopping and switching methods included: reliability, side effects, ease of use, and concerns about long-term health effects. However, as this chapter has already highlighted, there are a complex range of influences on contraceptive decision-making which extend beyond practical and health-related concerns.

The majority of young women in this study started contraception following abortion, but changed methods or discontinued altogether after a while. There is a growing body of evidence which has suggested that while young women may be initially motivated to make a positive change in contraceptive use following a pregnancy, this change is often not maintained. In the study by Kershaw *et al* (2003) mothers decreased contraception use late postpartum (after 12 months). In a study looking at young women under-25 who had an abortion, 82% (n=99) of those who had previously had an abortion started to use contraception either immediately afterwards (66%) or within one month (24%) of their previous abortion. Less than one quarter (22%) opted for a long-acting method. Discontinuation rates among the young women were high, with 60% stopping their chosen method and 27% doing this within three months (Bury *et al*, 2014). Accompanying qualitative research revealed that those young women who discontinued their chosen method early were likely to have experienced side effects or had simply run out of their supply of contraceptive pills (Hoggart *et al*, 2015). This was certainly corroborated in this study where a few young women were only given a short supply of the contraceptive pill from an abortion provider and then failed to seek a new supply from another service provider. Bury *et al* (2015) argued:

> ‘“This study indicates that most young women who have an abortion are motivated users of contraception before and after abortion, but face difficulties in selecting and/or maintaining an effective contraceptive regime in the immediate post abortion period” (p.6).

Research looking at contraceptive switching or discontinuation has shown that this is an individualised process. For example, a qualitative study exploring why some teenagers in London have more than one abortion found that some teenagers had 'chaotic' lifestyles and struggled to establish an effective contraceptive regime following abortion, while others were ambivalent about their lives and goals. It was also suggested that some young women maintain that abortion can make you subfertile, which may influence future contraceptive risk-taking (Hoggart *et al*, 2010; Hoggart & Phillips, 2011). Another qualitative study of 51 young women aged 16-25 found that when the young women perceived avoiding pregnancy to be important they were more likely to tolerate unwanted side effects from hormonal contraception. However, other women who were more ambivalent in their attitudes towards pregnancy, and were concerned about the hormonal aspect of contraception, were more likely to discontinue use (Cheung & Free, 2005).

The reasons young women give for failing to use contraception consistently prior to a pregnancy may be associated with subsequent conceptions. One study categorised these into 'easier to modify' explanations (relating to having the knowledge and skills to access and use contraception effectively) and 'harder to modify' explanations (fearing the side effects of contraception, lacking the motivation to use contraception, not planning to have sex). Those young women who attributed their previous failure to 'harder to modify' reasons were less likely to use hormonal contraception postpartum and significantly more likely to have a repeat conception in the two years postpartum when other factors were controlled for (Stevens-Simons *et al*, 1998).

Even after initiation of a LARC method, dissatisfaction can lead to discontinuation. In a qualitative study of 20 young women aged 16-22 who had requested removal of the contraceptive implant, Hoggart *et al* (2013) reported that intolerable side effects, such as bleeding problems, were a primary reason for discontinued use. The authors suggested that this highlighted a tension in the young women's

attempts to exercise reproductive control and feel in control of their own bodies. This was also identified as a potential barrier to uptake. Other authors have also drawn attention to the paradox of control with the contraceptive implant (Kuiper *et al*, 1997). Hoggart *et al* went on to suggest how feeling a loss of control often intensified when the young women encountered resistance requesting early removal of an implant and they would generally move to a less effective method following implant removal. Bleeding problems are also thought to contribute significantly to the discontinuation of LARC methods (Power *et al*, 2007; Kulier *et al*, 2007; Harel *et al*, 1996) as well as weight gain and headaches (Harel *et al*, 1996). There is not currently a way to effectively manage these. In this study, LARC methods, namely the contraceptive implant, were stopped either because the young women had seemingly become pregnant while using them (or before it was fitted) or due to perceived undesirable side-effects, although this did not necessarily mean the implant was removed early, simply that they decided not to carry on using it after a replacement was due.

Discontinuing also appeared to be influenced by contraceptive fatalism, whereby the young women no longer wanted a hormonal method of contraception but equally their partners did not want to use a condom. At times the young women in this study appeared to resent feeling that they had to take responsibility for contraception. Some young women also found it difficult to access a GP or sexual and reproductive health clinic. In a study of women's attitudes to towards accessing LARC methods of contraception in Scotland, barriers to access included concerns about confidentiality, preference for a female health care professional and difficult or inconvenient access (Glasier *et al*, 2008). Women want to be offered contraceptive choices and to be given enough information to make informed decisions.

9.3.3.4 Contraceptive efficacy

The efficacy of contraception depends on the method used and whether it is used correctly. Therefore, it is useful to distinguish between *method efficacy* (how effective the contraceptive method is) and *user efficacy* (how good an individual is at remembering to take or use that method). The most effective methods of contraception are also those which do not require user action, with less than 1% of implant and IUD/IUS users becoming pregnant within the first year (Trussell, 2011). The contraceptive injection and contraceptive pill also offer similar levels of protection when used correctly, though under typical user conditions this increases to 6% and 9% respectively (*ibid*). The efficacy of barrier methods is lower, for example the one-year failure rate of women relying on male condom use is 2% for perfect use, rising to 18% for typical use (*ibid*). Young women's contraceptive use is affected by a range of factors and it has been suggested that their decision about which method to use involves finding the 'least worst' option (Walsh, 1997).

Among the young women interviewed, a few said they had been let down by their chosen method of contraception when they became pregnant following an abortion. Hoggart *et al* (2015) categorised these as 'unpredictable pregnancies' where young women had been using contraception and therefore found it difficult to rationalise how they had become pregnant. Sometimes these pregnancies appeared to be the result of method failure, although it cannot be known for certain that the young women were using contraception properly. Two young women gave this as a reason for their first subsequent pregnancy following an abortion, and another two for further subsequent pregnancies. These pregnancies mostly occurred while the young women were using the contraceptive pill, although one was relying on male condoms as a 'bridging' contraception while waiting to have an IUD fitted.

Previous studies have shown that between 25%-50% of young women report poor compliance with oral contraception (Potter *et al*, 1996; Rosenburg *et al*, 1998; Woods *et al*, 2006). This has been associated with difficulties in establishing an effective pill-taking routine, not reading or understanding instructions, a lack of adequate information from their healthcare provider and experiencing side effects (Rosenberg *et al,* 1995). However, none of the young women in this study who were using the contraceptive pill when they became subsequently pregnant recalled issues with compliance. In fact, their pregnancies had come as a total surprise and they saw themselves as victims of "bad luck". Some young women explained how they had been making a concerted effort to avoid pregnancy (e.g. continuing with the contraceptive pill after a serious relationship had ended or using the withdrawal method in addition to contraception). One young woman who did report user issues said that she had not been aware at the time that her behaviour might have impacted on the pills effectiveness. However, she had also reported issues with adherence prior to her first pregnancy. As Meade and Ickovics (2005) observed, most teenagers practiced unsafe sex before and after pregnancy and it cannot be assumed that abortion will stop these difficulties.

One young women became pregnant either prior to or after having the contraceptive implant fitted following her first abortion. Two other young women became pregnant in similar circumstances (one on two occasions) following later maternities. As such, it is unclear whether the problem was method efficacy or user efficacy. Studies have shown that women are significantly less likely to have a subsequent unplanned pregnancy if they initiate a LARC method at the time of their abortion or in the early postpartum period (Cameron *et al*, 2012; Heikinheimo *et al*, 2014; Stevens-Simon *et al*, 1999; Pohjoranta *et al*, 2015; Rose and Lawton 2012; Tocce *et al*, 2012). In the case of abortion, this is often because they are highly motivated to avoid further pregnancy (Cameron, 2014). One study showed that when women of fertile age were required to attend an additional appointment for intrauterine contraception, more than 50% failed to attend and non-attendance was more common among younger women (Cameron *et al*,

2012). However, whether the time of their abortion is optimal for fitting LARC will depend on a range of factors, including the experience of any complications, service provision and the young women's own preferences (Baldwin & Edelman, 2013).

It is clear that the young women in this study who planned to initiate LARC but did not do so immediately had resumed sexual intercourse without using protection. Only when this continued and they recognised that they might be putting themselves at risk of pregnancy were they motivated into action. Research has suggested that young women who do not begin immediate use of a LARC method, should be offered a temporary 'bridging' method of contraception (Baldwin & Edelman, 2013; Cameron, 2014; Secura, 2010), such as the oral contraceptive pill or male condoms. However, this is not always initiated or used effectively.

9.3.5 The role of male partners' attitudes and behaviours towards subsequent pregnancy

While there is extensive research and public policy in relation to teenage pregnancy, much of this focuses on young women and the perspectives of male partners are noticeably absence. However, studies have shown that male partners can exert influence over the frequency of sexual intercourse (Toledo-Dreves et al, 1995), use of contraception (Stevens-Simon *et al*, 1996b; Johnston-Briggs *et al*, 2008; Van Horne *et al*, 2009) and young women's intentions to become pregnant (Fischer *et al*, 1999; Rosengard *et al*, 2005; Zabin *et al*, 2000). In this study, male partners were not interviewed directly. Instead their 'pregnancy-promoting' attitudes and behaviours (Miller, 2007) were revealed in the young women's accounts and appeared to play an important role in subsequent pregnancies for some of the young women.

Male partner influence on young women's contraception behaviours varies between methods. The embodied nature of most contraception means that this

is one area in which young women potentially get to exercise their own agency (Lowe, 2005). However, by definition, the use of male condoms requires the cooperation of a male partner (Van Horne *et al*, 2009, Johnston-Briggs *et al* 2008). Few of the young women in this study were relying on male condoms as their primary form of contraception when they became pregnant for a second or subsequent time following an abortion. This was perhaps because many were in 'longer-term' relationships and this has been associated with a shift from condom use to the contraceptive pill (Bauman & Berman 2005). Studies have also suggested that young women naturally change from a reliance on condoms to the contraceptive pill as they enter the later teenage years (ONS, 2009a). In this study condoms were typically used when the young women were waiting for a long-acting method to be fitted after an abortion or had not made an immediate post-abortion contraceptive plan. There were also some incidences where the young women had chosen to discontinue their prescribed method of contraception or had simply run out. This is not to say that male partners cannot have influence over contraceptive choices at other times, however there was little evidence of this in the present study.

Studies which have looked at the 'dyadic context' (Vasilenko *et al*, 2015) of contraceptive decision-making have suggested that male partners have a greater influence over these decisions than young women. While some of these have found that male partners discouraged contraceptive use (Kuiper *et al*, 1997), in this study it was more the case that male partners did not actively promote contraceptive use or evaded choices, and sometimes even offered reassurance that they would support the young women if they did become pregnant - leading to an "if it happens, it happens" conversation. As such, a lack of agency and fatalism about sexual encounters was not just on the part of the young women but their male partners as well. What remains unclear is whether these male partners were prioritising immediate sexual pleasure without really thinking about the potential consequences. As Loewenstein and Furstenberg (1991) suggested, not using contraception was the 'default' behaviour for many

teenagers and the while the consequences of using contraception are “immediate and certain”, the consequences of not using it are “delayed and uncertain” (p.963). Looking at the dyadic context of subsequent pregnancies would certainly be an interesting area for further research.

Most of the young women interviewed in this study were in relationships when they became pregnant for a second or subsequent time following an abortion, although this was not necessarily with the same male partner that they had conceived their first pregnancy, which ended in abortion, with. Living with a male partner has been found to be a significant independent predictor of earlier postpartum resumption of sexual activity (Kelly *et al*, 2005) and has been moderately associated with subsequent pregnancies among teenage mothers (e.g. Lewis et al, 2010a; Pfitzner *et al*, 2003). This may be due to the young women having more opportunity for sexual activity or they may be looking to complete their family. In the scoping review the findings for partner age and the presence of a new partner were mixed. However, there is very little information about the roles of partners beyond this.

Studies which have looked at young women’s pregnancy intentions often do not take into account the influence of male partners and their desire to prioritise pregnancy prevention (Sheeder *et al*, 2010). A study by Cater and Coleman (2006) exploring young people’s experiences of planning pregnancy found that not all young women involved their male partners in the decision to have a child or they took over the decision by simply stopping contraception. Others studies have reported that male partners can have positive pregnancy intentions (Rosengard *et al*, 2005) or what has been referred to as male ‘procreative consciousness’ (Marsiglio, 1993) and this has been associated with subsequent teenage pregnancy. In one study, Boardman *et al* (2006) found that young women who had an intended subsequent pregnancy within two years were significantly more likely to have a partner who wanted a pregnancy compared to those young women who had one pregnancy only. The reasons for these attitudes may vary.

It has been suggested that getting a young woman pregnant may be a validation of masculine identity (Goodyear et al, 2000; Marsiglio, 1993), while pregnancy may be a demonstration of male control and young women can be manipulated into going along with the idea (Miller *et al*, 2007). Alternatively, male partners may feel ready to become a father or see fatherhood as an opportunity to turn their lives around (Cater & Coleman, 2006; Augustine *et al*, 2009). However, these studies primarily report on the attitudes of young males and it is important to remember that the sexual partners of young women are not necessarily young themselves. In this study it certainly appeared that male partners exerted influence over the young women's intentions to conceive. Lauren described how her partner had been keen to have a child as his siblings were all having children at the time. While Sophie suggested that her partner had 'persuaded' her that he wanted children only for the relationship to deteriorate once she became pregnant. Her account was suggestive of her partners underlying control in the relationship. There were also cases where the young women wanted to try and please their partners to maintain the relationship. They saw their partners' interest in having a child as a sign of commitment and consequently were happy to go along with the idea.

A few of the young women said that they had been pressured into having sex or had been raped. However only one young woman had become subsequently pregnant as a result of rape and this was prior to having an abortion. A minority of the young women appeared to have been in toxic, manipulative or sexually coercive relationships in the past, and it is likely that they found it more difficult to refuse sexual activity or negotiate contraceptive use, which put them at risk of subsequent pregnancy. It was suggested that pregnancy in itself was a way of controlling the young women.

9.3.6 Developmental trajectories

In Chapter 2, the teenage years were considered as a time of biological, social and emotional development in which both normative and maladaptive patterns shape future life course trajectories. During this time, young women must learn to have 'healthy sex' and they may struggle with the personal and interpersonal consequences of when this is not achieved. Understanding the cognitive neural underpinnings of adolescent behaviour is of increasing interest, and can be used to illuminate developmental changes across both time and context (Steinberg, 2005). Notably, when compared with adults, there are developmental differences in the structure and function of the areas of the adolescent brain involved in behavioural control, especially in emotional contexts, and responsiveness to rewards and costs (Bjork & Pardinin, 2015; Casey & Caudle, 2013). This results in a peak of risk-taking in mid-adolescence and means that assumptions which might apply to adults may not apply to young people. Bjork and Pardinin (2015) also cautioned against viewing all adolescence risk-taking as a feature of normative neurodevelopment, suggesting that adolescents with significant risky behaviour typically have a life-long history of behavioural disinhibition which may become a behavioural trait. Both these points are relevant to the study findings and have potential implications for public health policy.

For the young women in this study, all but one were aged 16 or younger the first time they became pregnant and while they appeared capable to make informed choices about their future (i.e. to have an abortion) many did not appear to have full capacity or the knowledge to make decisions in the heat of the moment due to the influence of emotions and peers. Through the process of maturation and emerging personal autonomy, some of the young women became increasingly agentic in their choices about contraception and desires to start a family of their own, while others continued to take chances or be influenced by their environmental context and emotional factors. Histories of problematic behaviour were evident for a few of the young women but their stories revealed divergent

trajectories. In a similar way, teenage pregnancy may be perceived as marker for further teenage pregnancy. Nevertheless the findings from this thesis served to highlight that viewing the young women's development and experiences as similar would be an oversimplification of this heterogeneous mix. It is also important to recognise that the young women were different ages at interview, which could have methodological significance for variations in reasoning and how they interpreted their experiences.

9.3.7 The relationship between agency, structure and the healthcare system

The discussion thus far has largely focused on the individual and interpersonal aspects of subsequent teenage pregnancy, and the more immediate decisions that the young women made about contraception, sexual behaviour and pregnancy. However, these choices cannot be seen in isolation from the wider contextual aspects of the young women's lives, which often constrained their sexual and reproductive agency. The agency-structure debate focuses on the interaction between agency (an individual's ability to choose their own course of action) and structure (societal arrangements that empower or constrain choices). These structural conditions relate to the social norms that an individual might feel pressured to conform to and/or their perceived life chances (Weber, 1978). Rather than being predetermined, these structures may influence an individual's thought processes, how they interpret their experiences and the decisions that they make (Sibson, 2004, see pp. 34-59). The healthcare system will also be considered in the discussion, as this has an important role in supporting young women in the 'window of opportunity' provided by pregnancy (Meade & Ickovics, 2005). It will be argued that, in light of the fragmentation of sexual health services, the inequality in access to good quality contraceptive advice and provision around the time of their abortion, and the young women demonstrating needs which extend far beyond the remit of these services, it is not surprising that many continued to have difficulties managing their fertility.

In public health research many theoretical models, such as the Health Belief Model, are based on individual psychology and therefore place significant emphasis on individual agency, rather than the relationship between an individual and their sociocultural environment. For young women who have more than one pregnancy, this would imply a rather moralistic interpretation of the phenomenon, which locates subsequent teenage pregnancy in the deficits of individuals rather than reflecting on the complex and multidimensional aspects of their lives. It has already been argued in this chapter that the term 'repeat' pregnancy has powerful negative connotations, and portrays young women as being careless, feckless or irresponsible. Such attitudes ignore the challenges that many of these young women face, and the overall context within which they were trying to manage their sexual and reproductive lives.

The majority of the young women in this study came from deprived and disadvantaged backgrounds. While it was not possible to use the newly linked abortion-birth dataset created for this thesis to explore the relationship between subsequent pregnancy and deprivation as planned, Bradshaw (2005) reported that around three quarters of the area variation in teenage conceptions could be explained by deprivation. The gradient is much more marked for childbearing and abortion, with socially disadvantage teenagers more likely to give birth and those who are better-off more like to have an abortion (Smith, 1993). Therefore, as teenage pregnancy is typically aggregated in certain social classes, this implicates something beyond the behaviour of individuals. Although not explicitly stated, it was clear that for some of the young women interviewed, unstable backgrounds provided a foundation for their mixed, relaxed or even positive feelings towards pregnancy.

Different situations and experiences were discussed, such as the divorce or separation of parents, difficult relationships with mothers, a lack of family support and monitoring, and frequently moving home. Some also spoke about being involved with drugs and alcohol, although this was typically described as an

activity in their pasts. There were also examples of coercive or controlling behaviours from male partners, while a couple of the young women had experienced rape and childhood sexual abuse. In some families and communities it was also 'normal' to be a teenage mother. Pregnancy may therefore be symptomatic or as a means of escape, and it must be recognised that their fertility was one of a number of issues that they were struggling to manage.

The concept of structural or situational amplification may be relevant here (Mirowsky & Ross, 2003), in that some young women accumulate disadvantages which make it harder for them to have control over their lives. Even those who 'chose' to become pregnant were perhaps not making their own choice. Young women who lacked educational or career aspirations for the future were likely to have their lives shaped by pregnancy rather than letting their lives dictate when was best for pregnancy to occur. It should also not be assumed that because a young woman has an abortion when she was very young, that she definitely wants to avoid subsequent pregnancy in the not so distant future. It may not have been perceived as socially acceptable to want a child so young. The findings also showed that intentions fluctuated according to personal circumstances and time.

Often an assumption within public policy is that teenage pregnancy, or at least pregnancy in the under-18s, is essentially problematic. As was discussed in Chapter 2, some authors have argued that pregnancy can be a positive experience for young women. The question therefore is: 'Should policy be trying to shape young women's pregnancy intentions?'. Certainly helping young women to avoid pregnancy when they do not want to be is a sensible cause, and in the case of subsequent childbearing, further consideration perhaps needs to be given to the spacing between pregnancies. However, the best policy framework is one that emphasises choice and personal empowerment in relation to pregnancy but also makes sure that young women are aware of their full range of options. Cultural and religious values may also play a role in subsequent teenage pregnancies,

although the ethnically homogeneous sample in this study did not allow for these to be explored.

There is also a gender bias in research and policy relating to pregnancy and young women. It often excludes the role of their male partners, and places responsibly for pregnancy solely with young women. The design of this qualitative study, which focused only on the young women's perspectives, did little to help alleviate this. Overcoming structural barriers in a society which limits young women's opportunities and choices, in relation to their lives, is far more of a challenge than seeking to address individual behaviours. Nevertheless, there is still a need to try.

There was variation in the ways that the young women lost control over their fertility. Some apparently took risks and played with chance, while others seemingly made mistakes or struggled to use their preferred method of contraception effectively. The motivation behind these 'behaviours' and 'decisions' were interesting and while some related to individual and relationship factors such as perceptions of vulnerability to pregnancy, pregnancy intentions, and simply 'part of being a teenager', there were also aspects relating to the services and support that the young women received. The research findings illustrated that the conditions of the healthcare system, namely: the attitudes or unconscious bias of some healthcare staff towards pregnant teenagers and teenagers who have been pregnant more than once, the complexity of providing sexual health services to young people, and inequality in access to good quality contraceptive advice and provision around the time of abortion; all affected the young women's ability to manage their fertility following a previous pregnancy. Moreover, a lack of continuity across contraception, abortion, and maternity services arguably made it more difficult to have a sense of personal agency. The relationship between structure and services appeared to be a vicious circle. For services to address the unmet needs of young women, especially following an abortion, requires the government to also prioritise this in policies and funding targets. The exclusion of support following an abortion, and more broadly,

subsequent teenage pregnancy, in public policies until recent years (discussed in Chapter 4), may be one reason why the needs of this population have largely been overlooked.

The research has illuminated a particularly complex interplay between individual circumstances and adverse 'structural' factors outside the young women's direct control, in relation to subsequent teenage pregnancy following an abortion. Couple and sexual health service-related influences also appeared important. Agency was often temporary and context specific. Part of the ongoing challenge is to empower young women to exercise control across different times and situations. With the complexity of influences involved, it is perhaps not surprising young subsequent teenage pregnancy does not easily conform to theoretical models created by researchers.

9.3.8 Moving towards a theory of subsequent teenage pregnancy

This chapter has, thus far, sought to discuss the findings in relation to existing literature. It has drawn on both psychological and sociological models of behaviour, such as constructs of the Health Belief Model and the convergence of agency and structure. However, the discussion has yet to move from interpretation to the formulation of a tentative theory or diagrammatic representation of the study findings, which could help make clear where further research is needed. In part this is because IPA aims to develop an idiographic understanding of participants either as an end in itself or before looking at convergences and divergences across individual stories. The approach does not set out to test particular theories, but can be used to develop existing theories or present arguments that can be subsequently tested and elaborated on. In this final section the strengths and limitations of these theories in helping to understand the study findings will be discussed. As the process of change was important in the young women's accounts, a further model will be introduced which attempts to take into account changes in contraceptive use over time and

context. Finally, by integrating constructs from these theories, and drawing on the body of qualitative data, a diagrammatic representation is proposed to illustrate the multifaceted and diverse processes involved in young women's experiences of subsequent pregnancy.

As a means to understanding and reducing teenage pregnancy, social cognitive models of behaviour have often been used (Free *et al*, 2007). The Health Belief Model (HBM) (Rosenstock, 1974; Becker, 1974; Hochbaum, 1958), is one of the most commonly applied theories of health behaviour at an individual level, and has been used as a conceptual framework for explaining and predicting variations in women's contraceptive use (Hall, 2012). The model relies heavily on cognitive factors and assumes that humans are essentially rational beings. There are six main constructs in the HBM: (1) *perceived susceptibility* is the person's assessment of the likelihood of them developing a particular illness or condition; (2) *perceived severity* is how serious the person feels the condition is and its potential consequences; (3) *perceived benefits* refers to a person's perception of the effectiveness of taking specific health actions to reduce the severity/susceptibility; (4) *perceived barriers* refers to a person's perception of any difficulties related to initiating or continuing a specific health behaviour; (5) *cues to action* are the prompts to initiating or continuing a specific health behaviour (these can be internal or external); and (6) *self-efficacy* is a person's confidence and belief in their own ability to perform a given health behaviour.

Many of these constructs can be seen in the data. For example, the young women's perceptions about their vulnerability to pregnancy following abortion (perceived susceptibility) or their varying motivation to prevent further pregnancy (perceived seriousness). Practical and perceptual barriers to contraceptive use were also frequently reported (perceived barriers), as were the quality and timing of discussions about contraception with healthcare practitioners (external cues to action). However, there are three main limitations in using the HBM to help understand the qualitative data. Firstly, healthy

behaviour is largely depicted as individually constructed and while there is scope within the HBM to look at social, environmental and economic factors, this is not clearly or adequately specified. Secondly, it assumes that people are rational beings and fails to account for behaviour that may be in part determined by emotional, habitual, or unconscious decision-making or under social and affective control. Thirdly, there is also a more complex degree of choice when it comes to pregnancy and contraception, and it cannot be assumed that pregnancy is inevitably a negative outcome and should be avoided. Therefore, the model has been less effective when looking at sexual and contraceptive behaviour (Lopez *et al*, 2009).

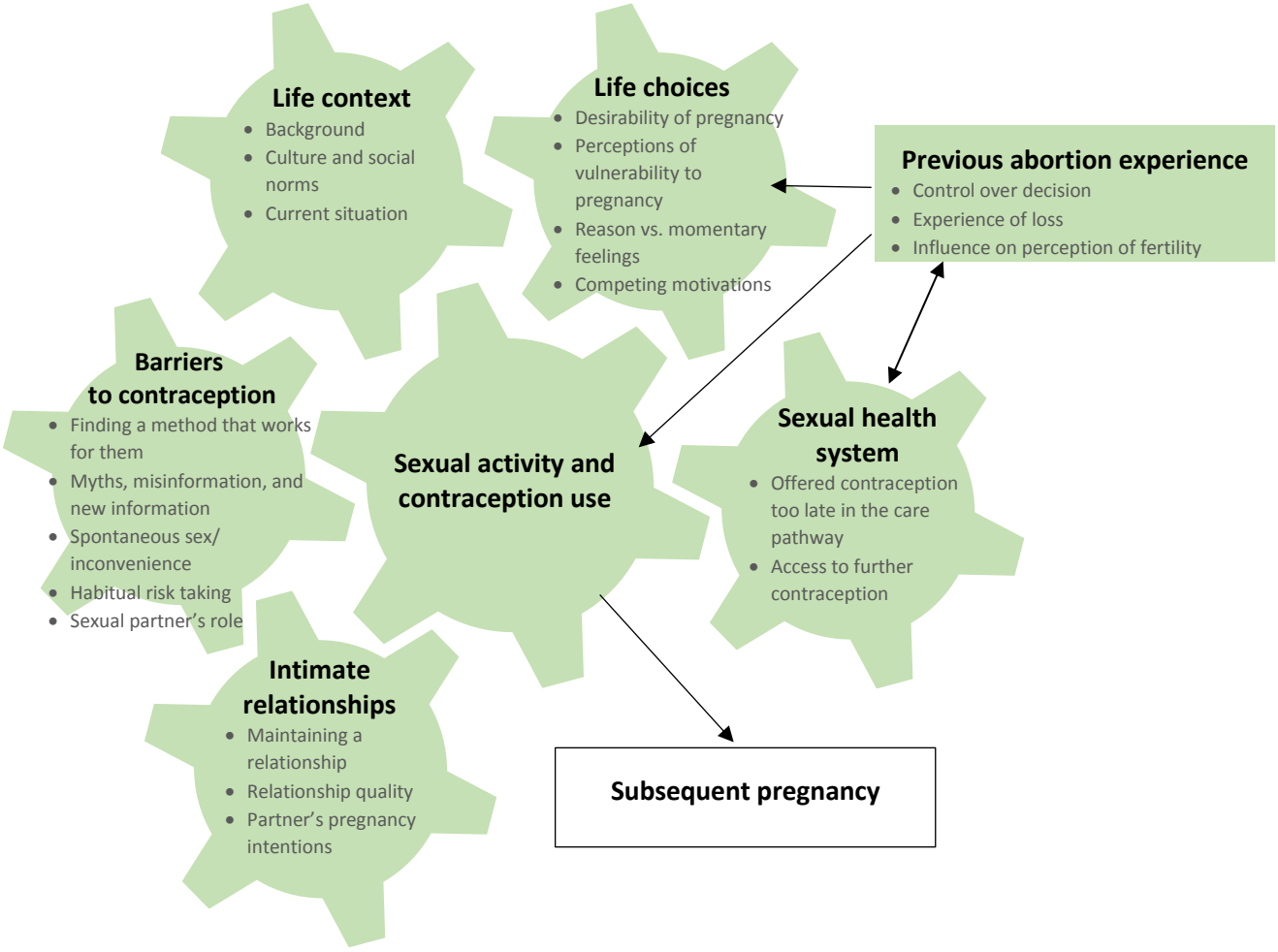
While individual behaviour is important, the wider social determinants of health status outside the direct control of individuals needs to be understood (Graham & Kelly, 2004). The structure-agency debate has been used in this thesis as a framework for understanding the young women's sexual and contraceptive choices. Often discussions centre on which one of these is more dominant; meaning are decisions largely a matter of individual choice or broader structural variables "that may script behaviour to go in particular directions as opposed to others that might be taken" (Cockerham, 2005, p.55). In discussing the findings, it has been shown how life choices and life context interact, but also have different functions, and consequently the young women's actions could either be constrained or enabled by their circumstances. The findings showed that structural factors, such as the young women's backgrounds, aspirations and living conditions, were important and provided a social context which influenced their thoughts, decisions and behaviours (Sibeon, 2004). These sometimes outweighed but did not negate personal and sexual agency. Provider level barriers and healthcare system characteristics could also empower or constrain choices.

The static nature of social cognitive models has also been criticised. Ingham and van Zessen (1997) argued that individual constructs only become significant in particular situational and interactional contexts. To address these limitations and

recognise that contraceptive behaviour is fluid, and changes over time depending on social and situational context, Free *et al* (2005) proposed a contextual, integrated and dynamic model of contraceptive use. The model highlights the importance of three central factors which interact and sometimes compete: social goals, perceptions of vulnerability to pregnancy and constraints/facilitators to contraception (e.g. personal knowledge and skills, situational and structural). However, it also recognises that these factors change over time depending on experience, changes in situation and new information. For example, changes in the 'seriousness' of the relationship may result in a shift of contraception and alter perceptions about the desirability of pregnancy. For the young women in this study, sexual and contraceptive behaviour post-abortion may be understood as contextual and dynamic, and often their identities, relationships, and engagement with contraception and contraceptive services were in flux.

Given the complexity and diversity of the young women's experiences, a tentative diagrammatic representation of the different processes influencing subsequent teenage pregnancy is now presented in this thesis. This draws on the young women's experiences and the theories discussed. These arguments are by no means comprehensive, given that they are based on a purposively selected group of 10 young women. However, they help to summarise key aspects of the narrative in this discussion chapter, and can be further tested and elaborated on in future research that does not set out with such an idiographic commitment.

Figure 9: Diagrammatic representation of the findings



The diagram of subsequent teenage pregnancy describes the role of six central but often competing factors which influence sexual activity and contraception use, and consequently subsequent pregnancy. Five of these have been illustrated as cogs to represent their dynamic nature. The first area is *life context* which includes structural and situational factors. Second, *life choices* includes influences on personal and sexual agency such as the desirability of pregnancy, perceptions of vulnerability to pregnancy and the influence of momentary feelings and reward driven behaviour vs. longer term goals and aspirations. Third, are *barriers to contraception,* which range from the young women struggling to find a method which worked for them, myths and misinformation about different methods, to the inconvenience of using and accessing contraception. Fourth, the dynamics of *intimate relationships*, which featured strongly in the young women's accounts,

includes getting together with a new partner or the relationship becoming more serious. Male partners could also influence the young women's contraceptive behaviours and often had their own intentions around the desirability of having a child. Fifth, the *sexual health system* played a role, such as access to contraception immediately following an abortion, the quality of advice and support, and the integration of services. The sixth area was the abortion experience itself. For example, if a young women did not feel she had made an autonomous decision to have an abortion or experienced a sense of loss afterwards, she may seek to become pregnant again soon after. To conclude, the young women described a complex and sometimes contradictory range of influences on subsequent pregnancy which often changed over time and situation.

9.3.9 Summary

Having more than one pregnancy as a teenager is an intensely complex cognitive, emotional and behavioural experience - occurring in a challenging social context. For the young women in this study there were often limits on their ability to determine and control the circumstances of their lives. While having an abortion led to initial behaviour change for most, particularly in terms of contraceptive use, this was often not maintained. The young women's fertility intentions and behaviours could be uncertain, changing and situated within specific personal circumstances, intimate relationships and time periods. Some clearly decided on motherhood following an abortion, while others genuinely wanted to avoid further pregnancy. However, for the most part, the young women fell somewhere in between. The extent to which these attitudes and choices were determined by wider societal influences is far less tangible. Often there were inconsistencies between the young women's pregnancy intentions and their sexual and contraceptive behaviour. Some of the young women had unprotected sex even when they were aware of the possible consequences, while others believed they had low vulnerability to pregnancy and this could be a consequence of the

abortion itself. The uncertain nature of pregnancy intentions is also perhaps one possible reason why LARC methods were not chosen by many of the young women, even following an abortion. However, pregnancy intention is an important consideration as subsequent teenage pregnancies are more likely to be planned, or at least approached with ambivalence, than first-time teenage pregnancies (Boardman *et al*, 2006).

Contraception was something that young women used out of necessity. It was a preventative measure and as such, the young women engaged in weighing up the pros and cons of different methods of contraception or whether they should risk not using a method at all. Any disincentives to use a method, whether this was access issues or the experience of side effects, could tip the balance against use. Despite contraceptive advances, the young women were sometimes let down by their chosen method, and some core dilemmas persisted that were inevitable, because sexual relations, the capacity to be a parent and the option of ending pregnancies are elemental issues of the lives of women in particular. In order to help the young women exercise better reproductive control, the study has confirmed the importance of future contraceptive planning, ensuring better availability of all methods of contraception at the time of an abortion, clear referral pathways to make access to contraception after an abortion as easy as possible, and ongoing follow-up to check that the young women have initiated and settled on their chosen method of contraception. However, given the reality of these young women's lives, it will take more than contraception to help them from better controlling their fertility following an abortion, and this may be far beyond the capacity of sexual health services alone (Hallgarten & Misaljevich, 2007).

The analysis helped to illuminate the experiences of young women who become pregnant following an abortion but it has also raised a number of questions. If young women are to be better supported to manage their fertility following an abortion, it is crucial to learn more about how best to empower them to make

informed decisions about their bodies, sexual relationships and lives, whilst respecting their personal decision-making.

Chapter 10: Synthesis, conclusions and recommendations

This final chapter synthesises the main findings from the qualitative and quantitative research strands and draws conclusions from these. It then discusses the strengths and weaknesses of the study, before considering the policy and practice implications and areas for future research.

10.1 Synthesising the key findings

This thesis included three distinct strands of research. Firstly, a scoping review to identify evidence on the factors associated with subsequent teenage pregnancy. Secondly, a data-linkage study to identify the proportion of teenagers who have more than one pregnancy and the patterns of these according to pregnancy outcome (birth or abortion), and; finally, a qualitative study to explore young women's experiences of becoming pregnant following an abortion. Through the use of multiple data, the overarching aim of this thesis was to work towards a better understanding of teenagers who have more than one pregnancy within the UK, where there is currently very little literature on the subject.

Why is it so difficult to determine the proportion of teenagers who have more than one pregnancy?

Teenage pregnancies in England and Wales have been declining consistently for almost a decade and have now reached an all-time low. However, this trend fails to reveal whether the decline varies across different subgroups, particularly those young women who have been pregnant before. The extent to which the same young women feature in teenage pregnancy statistics is unclear, as there are no routinely published data on the proportion of teenagers who have more than one pregnancy. Administrative data suggests that around one quarter of young women under 20 who give birth in England and Wales will have had a previous child (ONS, 2014a; ONS, 2015), and a similar proportion of young women under 20 undergoing an abortion will have been pregnant at least once before (McDaid *et al*, 2015). Estimates from cross-sectional studies in the UK have suggested that

the proportion of subsequent teenage pregnancies may be as high as 30% (Perrow, 2004). Moreover, a recent randomised control trial (RCT) to evaluate the effectiveness of the Family Nurse Partnership (FNP) in assisting first-time teenage mothers in England found that 66% in both the FNP group (426 of 643 assessed young women) and the control group (427 of 646 assessed young women) had a second pregnancy within two years (Robling *et al*, 2016). It should be noted that young women aged under-20 at baseline were included in the study, meaning that some would have been aged 20 or 21 at the time of their second or subsequent pregnancy. Young mothers were eligible to take part if it was their first pregnancy or they had a previous pregnancy ending in miscarriage, stillbirth or abortion. However, these previous pregnancies were not reported and, as such, this figure may be an underestimate of the proportion of subsequent pregnancies in the population sampled.

The scoping review carried out for this thesis revealed that among the five studies which reported on the proportion of subsequent pregnancies among teenage mothers, 28%-61% (M=40%) had a further pregnancy within 24 months. Five studies reported on the proportion of young women who had a subsequent birth within 24 months, which ranged from 16%-27% (M=18%). Four studies found that 30%-48% (M=30%) of young women who had been previously pregnant (any outcome) became pregnant again within 24 months. However, caution is needed when interpreting these figures as, similar to the FNP evaluation, some of the young women in these studies may have been aged over 19 at the time of their subsequent pregnancy, and the studies mostly originated from the US where the rate of teenage pregnancy is higher than the UK (Sedgh *et al*, 2015).

This thesis aimed to address this important gap in knowledge with regard to estimating the level of subsequent teenage pregnancy in England and Wales, and the patterns according to pregnancy outcome. As discussed in Chapter 7, various methods were considered to help identify more complete and accurate data before a study was designed to link birth registration data with abortion

notification data; both which are the official sources for birth and abortion statistics in England and Wales. Linking these two datasets together should have provided frequency counts and data on the characteristics of this population of young women, without the expense of a national survey. However, there were a number of practical barriers encountered and, consequently, this effected the completeness of the data linkage achieved. These were: the lack of a unique identifier on both datasets as young woman's *date of birth* and *postcode* of residence at the time were the only two personal identifiers consistently reported on abortion notification forms; a data request issue with the report year and age being age under-20 at outcome rather than age under-20 at conception (meaning young women who conceived aged 19 but who gave birth or had an abortion at aged 20 were excluded); and not anticipating the cumulative delays with accessing and linking the data .

The results showed that over a 10-year period (2004-2013) 7.6% of young women aged under-20 who either gave birth or had an abortion had been pregnant at least once before. In 2012[22], 10.1% of the overall sample had been pregnant previously. Looking at the figures separately for births and abortions, 7.0% of young women who gave birth had been pregnant before, while this was 13.5% for young women who had an abortion. There were a number of limitations to the newly linked dataset which could be improved on in the future and these are currently being explored.

Other patient-record based datasets were considered (see Chapter 7) as a potential route to identify population-level estimates of subsequent teenage pregnancy. However, one of the challenges in identifying teenagers who have more than one pregnancy is the number of different services that may be involved in their care, including GPs, midwives, sexual and reproductive health clinics, hospitals, independent clinics and other specialists. Often these different services

[22] There were additional concerns about the completeness of the matched birth data in 2013, so this year has not been used.

have different software systems for recording patient information. It is therefore possible that some young women may be missed using patient records, and data completeness, validity and consistency is also variable. Medical events are recorded in patient records using clinical identifiers, and as such, multiple codes may relate to each pregnancy and it is necessary to use a 'pregnancy identification' algorithm. One of the limitations of this approach is that the recording of abortions in primary care data is often incomplete as abortions providers are not required to inform GPs when a woman has an abortion. Even if abortions are recorded, there may be very little information other than the event itself making it difficult to identify when conception occurred. It is possible to obtain THIN data that has been linked together with Hospital Episodes Statistics (secondary care data) but in 2013, only one third of abortions to young women under-20 took place in a hospital setting.

Overall this attempt to create a new linked dataset to more accurately identify subsequent pregnancies among young women under-20 did not succeed. This was primarily due to the lack of a unique personal identifier on both datasets. This thesis advocates a change in routine data collection to include NHS number on all abortion notification forms so that this can be used, in combination with other personal identifiers, to link these data with birth registration data. Without this, it may be difficult to accurately determine the level of subsequent teenage pregnancy in England and Wales. More importantly, these data can be used to inform policies and create an enabling context to help previously pregnant young women to better manage their reproductive lives - ultimately helping to achieve further reductions in the teenage pregnancy rate.

Which young women are most likely to have more than one pregnancy?

There are a number of recognised factors commonly associated with teenage pregnancy, such as socioeconomic disadvantage, a lack of engagement in education, low aspirations and a disrupted family structure (Imamura *et al*, 2007). The scoping review included in this thesis explored whether there are any

characteristics associated with subsequent teenage pregnancy. Fifty six studies were included in the scoping review. The Mixed Methods Appraisal Tool (MMAT) was used to assess the quality of these studies and their relevance to the current UK context (including length of follow-up, social and cultural setting, ethnic composition of participants and year the research was conducted). The studies identified were almost exclusively from the US, and focused on young women who were pregnant and continuing with their pregnancy and/or who were already teenage mothers. Just over one third had samples consisting of all or mostly minority populations, such as Black, Hispanic or Latin American. The studies varied considerably in design, from cohort studies within an intervention context to population-based surveys. While prospective studies had set follow-up periods ranging from less than 12 months to 36 months, in retrospective designs this often varied between participants, from when they had their first pregnancy to their most recent pregnancy outcome. Different measures were used and the amount of evidence on some factors was limited. Given this heterogeneity it is perhaps not surprising that studies reported conflicting results, making interpretation difficult.

Despite these limitations the most consistent predictor of subsequent teenage pregnancy was not initiating a LARC method (IUD, IUS, contraceptive implant and contraceptive injection) in the postpartum or post-abortion period, a finding consistent with other reviews (Baldwin & Edelman, 2013, Meade & Ickovic, 2005; Rigsby *et al*, 1998; Rowlands, 2010). LARC usage has also been associated with reductions in the under-20 conception and abortion rates in England (Connolly *et al*, 2014), and while uptake appears to be increasing, this has been slower than expected (NICE, 2014b). Despite LARC methods being far more effective than other popular methods, such as condoms and the contraceptive pill, there remains a number of barriers to uptake and continuation which have been identified in UK literature. These include concerns about acceptability, tolerability and safety, as well as uneven access (Baldwin & Edelman, 2013; Glaiser *et al,* 2008; Hoggart *et al,* 2013, Williamson *et al,* 2009; Okpo *et al*, 2014). Furthermore,

in the qualitative analysis in Chapter 8, it was clear that while the young women were aware of long-acting contraception, they had limited knowledge about individual methods. Myths and misinformation were common as the young women were strongly influenced by negative stories from friends, family members and internet sources. In assessing the positives and negatives of different forms of contraception, other studies have shown that this 'informal knowledge' plays a fundamental role in young women's contraceptive decision-making (Hoggart *et al*, 2010, Glaisier *et al,* 2008). Adding to the complexity of contraceptive use was the young women's motivations to avoid further pregnancy. Studies have suggested that young women can have conflicting pregnancy intentions and change their mind about wanting to avoid pregnancy within months of a previous pregnancy (Kelly *et al*, 2005). Such uncertainty is one possible reason why some young women lacked the ability or willingness to commit to a decision about contraception, especially a LARC method, and about their desire to avoid pregnancy itself (Hallgarten & Misaljevich, 2007).

Even when young women initiate LARC methods, there are concerns about early discontinuation (Peipert *et al*, 2011). Hoggart *et al* (2013) reported that often young women reach a 'tipping point', whereby unpleasant side effects and other problems become intolerable. However, even with early discontinuation, LARC methods appear to offer greater protection against subsequent pregnancy than non-LARC methods, at least in the short-term (Baldwin & Edelman, 2013). One of the issues with these studies is that they typically do not look at the effects of LARC methods on subsequent pregnancy beyond two years. A recent five-year longitudinal study looking at women who opted for the contraceptive implant or contraceptive injection following an abortion found that they were at increased odds of a subsequent abortion between 2-5 years, compared to those using no contraception or unknown methods. Women were however less likely to have a subsequent abortion within two years, which was consistent with other studies (McCall, 2015). This finding suggests that many women turn to a less effective method or no method at all after discontinuing use or when the method has

expired, and this could have important implications for younger teenagers who initiate LARC following a pregnancy. Furthermore, it should be remembered that LARC is not a solution for all young women. Therefore it is important to understand other influences on the aetiology of subsequent pregnancy.

Looking at subsequent pregnancies among teenage mothers, other factors identified in the scoping review which were supported by at least two multivariate analyses and rejected by no more than one included: poor mental health (depression, anxiety, stress), a history of dropping out of school either before or after pregnancy, being in a married or committed relationship, desiring or intending a subsequent pregnancy, longer exposure to pregnancy risk (duration of time since a previous pregnancy outcome), aggressive behaviour, and having friends who were pregnant or teenage mothers. However, for the latter three factors data were provided from three or fewer studies. In terms of subsequent childbearing, younger maternal age, minority ethnicity, whether first pregnancy was desired or intended, a history of dropping out of school either before or after pregnancy, and not living with one or more parents also met these criteria. Similarly, data were lacking for most factors and therefore these findings must be interpreted with caution. There were insufficient data on the factors associated with subsequent pregnancy following any previous pregnancy outcome to draw conclusions, and no studies were identified that specifically explored risk factors associated with subsequent teenage pregnancies following an abortion.

Aside from associations with LARC usage, the findings from the review were largely inconclusive. This is perhaps because most teenagers have multiple characteristics which increase the likelihood that they will have more than one pregnancy, not least, the fact that they were at risk of a first-time pregnancy. Many of these factors, such as a background of lower educational attainment or ethnic differences, are not directly related to having unprotected sex (Rigsby *et al* 1998) and given that they often occur concurrently, this makes it difficult to

understand the complexities of how they interact and their independent effects. It may be helpful to explore 'causal pathways' (i.e. the cumulative effect of several events or factors). Alternatively, and perhaps more simply, all pregnant teenagers should be treated as 'high risk' for subsequent pregnancies, as there are few identified features that characterise a subgroup more susceptible to further pregnancies (Rigsby *et al*, 1998; Whitaker *et al*, 2016).

In terms of the implications of these findings, it may be useful to distinguish between those risk factors which are 'static' and those which are 'modifiable' (Steven-Simons *et al*, 2001). For example, the circumstances of a first pregnancy cannot be changed once this has happened. However, it may be possible to modify other aspects of the young women's lives, such as their contraceptive choices or future aspirations. While LARC methods appear to reduce subsequent teenage pregnancies, it must be reiterated that they are not acceptable or suitable for all young women and reproductive choice must be balance against clinical efficacy. This is acknowledged within the current government Framework on Sexual Health Improvement in England (DH, 2013). There are numerous wider relational, social, cultural and structural factors which might undermine contraceptive choices and consistent use. These young women may not engage in regular sexual activity or may not be thinking about having sex following a pregnancy, especially if they were very young when they had their first conception or had broken up with a partner. They may have concerns about putting hormones into their bodies or want to maintain regular monthly periods – which some LARC methods can affect. They simply may just prefer other methods of contraception, even though these may not always work. It is also important that young women are helped to make an informed contraceptive 'choice', rather than being persuaded into using a particular method because it is considered most effective. This is likely to affect the young women's perceived acceptability and their willingness to continue use, especially if they experience side effects. They may be also less likely to engage with contraceptive advice from healthcare professionals in the future (Hoggart *et al*, 2013). Young women who

have more than one pregnancy appeared to face a range of personal challenges, and therefore are likely to need ongoing person-centred support to maintain their contraceptive choices and to empower them to take control of their lives. Finally, some young women may intend to become pregnant again, or be uncertain about their pregnancy intentions, and consequently their support needs may be very different to young women who genuinely want to avoid further pregnancy.

What are the experiences of young women who become pregnant following an abortion?

Subsequent teenage pregnancy is often portrayed as a story of irresponsibility, but the reality is far more complex. This study used an Interpretive Phenomenological Analysis approach to explore the experiences of 10 young women who had become pregnant following an abortion. From this analysis, four main 'superordinate' themes emerged: pregnancies as distinctive but cumulative experiences, relationships and intimacy, fertility control and perceptions of risk, and abortion care and the sexual health system. In relation to the first of these, the qualitative data revealed individualistic and diverse accounts. The circumstances and consequences of each pregnancy were often very different, and each story had its own idiosyncratic features. Adolescence is a transitional phase and as such, it is perhaps not surprising that the young women's lives and desires changed during this time. The qualitative findings also showed that the young women's decision-making in relation to contraceptive use, their perceptions of their own fertility and their desire to have a child were influenced by their earlier experiences and understanding of conception and abortion. This meant that while the young women's pregnancies were distinct events and should be treated as such, past pregnancy experiences also impacted on future sexual and reproductive behaviours.

Subsequent teenage pregnancies do not happen for any one reason; in fact, there were various interconnecting parts to the stories that were told, often

interspersed with contradictions. One fundamental aspect was the young women's sexual and contraceptive behaviour, and their motivations to protect against pregnancy, as these clearly had a direct influence on whether or not they became pregnant again. Most of the young women in the qualitative study sought to prevent further pregnancy immediately following their first abortion (except for one young woman who had an abortion on medical grounds). However, this initial motivation often subsided, and some became passive or fatalistic in their contraceptive use, while others began to see motherhood as a positive choice. The young women were faced with a range of pressures and influences from their partners, friends, family and wider society; and these shaped their views and behaviours. Many came from unstable backgrounds and experienced a lack of family support and monitoring. Some had got in with the 'wrong crowd' and ended up involved in drug or alcohol use. Pregnancy could therefore be a consequence of these situations or as a means of escape from them. The role of male partners in influencing young women's sexual and reproductive behaviour following an abortion should not be overlooked. Relationships with partners often defined contraceptive change, as some young women were encouraged by a male partner to risk unprotected sex or to have a child. Love and romance was also an important theme in some of the young women's accounts, whereby having a child together was considered to be a demonstration of commitment.

The research showed that some young women perceived that they were at low risk of subsequent pregnancy or their perception of risk declined over time, which has also been identified in other studies (Hoggart *et al*, 2010, Williamson *et al*, 2009). The reasons given in this study closely echoed those identified by Forthwirth *et al* (2013) in a study looking at perceptions of susceptibility to pregnancy among women obtaining abortions, namely: perceived invulnerability to pregnancy, perceiving themselves or their partner to be less fertile, not thinking about the possibility of becoming pregnant at the time, and perceived protection from using contraception (i.e. contraceptive failure or not using contraception consistently or correctly). For some young women in this study a

one-off incident of unprotected sex, such as running out of their preferred method or not expecting to have sex, developed into routine behaviour. It was also the case that the experience of side effects led some young women to discontinue contraception without immediately seeking an alternative method. Contraceptive negotiation could become an exercise in non-decision-making and as such contraception was not used by default rather than choice. The longer the young women had unprotected sex without becoming pregnant, the more they believed they might be sub-fertile. This was often intensified by concerns about the effects of abortion on fertility, medical reasons or family history, which could place doubts and fears in the young women's minds about their reproductive futures. Even though they may not want a child now, these young women might sub-consciously want to see if they can become pregnant. Fertility awareness immediately following the resolution of a pregnancy also appeared to be lacking among some of the young women interviewed.

Nearly half of the young women attributed their subsequent pregnancies following an abortion to user or method contraceptive failure, and this reason was also given by some of the young women for further pregnancies after this. It is uncertain whether those young women who attributed their pregnancies to method failure were using contraception properly. These young women were often surprised at becoming pregnant and did not fully understand why this had happened. As such, they were unlikely to use emergency contraception. Among study participants there was also a general reluctance to use LARC methods for a variety reasons already discussed; although the young women's willingness to try one of these methods appeared to increase with each pregnancy. Given the complexity of contraceptive decision-making it is important to recognise that knowledge and access to contraception alone may not always be enough to help young women manage their reproductive lives (Hallgarten & Misaljevich, 2007). Young women need to be engaged when making future contraceptive plans and feel they have control of their own decisions and bodies. Indeed, the theory of structure and agency is relevant here, in that social structure can influence

individual actions and vice versa. Sometimes the broader contextual factors of the young women's lives made them feel like they had little to tangibly choose from in terms of their futures. It was also the case that the healthcare system did not always support the young women's needs as best as it could. For example, while it is standard practice to discuss past contraception use and future plans before and after an abortion, the young women's perceptions on whether they had been advised effectively were mixed. Access issues were also highlighted, and some young women could not get their chosen method of contraception immediately at the time of the abortion or were only given a short supply of a user-dependent method. Starting a LARC method immediately after an abortion has been associated with a reduction in subsequent teenage pregnancy (Tocce, 2012; Heikinheimo *et al*, 2014). However, it can be difficult to provide all methods of contraception after an abortion, mainly because the second part of a medical procedure is often home based (making it difficult to fit an IUD/IUS or contraceptive implant) and not all health professionals delivering abortion services will have the clinical training and ongoing maintenance required to fit all the different LARC methods.

At times the young women resisted or struggled with their own sexual agency. Some had difficulties identifying their own pregnancy intentions or were not motivated or empowered to commit to consistent contraceptive use over time. Others questioned their fertility or not fully considering the consequences of unprotected sex, despite having become pregnant before. Some of the young women appeared to have genuine problems with contraception, and reported numerous method changes. It must be remembered that sex is not always planned in advance and this can be problematic for methods used at the time of intercourse. These complex and interlinked problems are known to be extremely difficult to tackle. It is therefore perhaps unsurprising that evidence from review studies on interventions to reduce subsequent teenage pregnancy has been largely equivocal (Klerman, 2004, Corcoran & Pillai, 2007; Whitkker *et al*, 2016). Moreover, these interventions have almost unanimously focused on teenage

mothers, not young women who have an abortion. While agency-enhancing activities may still be central in supporting young women's to better manage their fertility following a previous pregnancy, the structural influences on their lifestyle choices and systemic constraints on sexual health, maternity and abortion services to make these congruent with young women's needs, must also be addressed.

10.2 Strengths and limitations of the study

A particular strength of this thesis is that it used multiple data sources in order to help better understand teenagers who have more than one pregnancy in England and Wales. Extensive literature searches were undertaken to identify: 1) studies looking at the factors associated with subsequent teenage pregnancy; 2) qualitative evidence describing young women's experiences of subsequent teenage pregnancy, and; 3) review studies regarding interventions designed to reduce subsequent teenage pregnancy. A scoping review method was used to map the main sources and types of evidence. Scoping reviews aim to capture all data rather than set narrow parameters, and as such, the findings were descriptive rather than providing a detailed synthesis or meta-analysis. It is therefore unclear if the data were of sufficient strength to identify specific risk factors. One key limitation of scoping reviews is that no methodological appraisal of the quality of studies is typically included. However, in this study, the Mixed Methods Appraisal Tool (MMAT) was used for individual studies, which covers a number of quantitative and qualitative research designs and methods. This helped to provide an indication of the quality of each study and to prioritise the evidence when summarising the findings. However, the MMAT scores must be interpreted with caution, as the set of assessment criteria for each study design may be less comprehensive than specific tools, and further content reliability and validity testing is needed. The quality assessment was undertaken by the postgraduate research student only, although it has been designed to be used by a minimum of two reviewers to enhance methodological rigour. The geographical

spread of the literature identified in the scoping review was also a limitation, with the vast majority being conducted in the US and focusing on minority populations. Given that the health care system is different to UK, transferability is limited.

In terms of the data linkage study, a number of problems were encountered which have already been extensively discussed in Chapter 7, and earlier in this chapter. These related to misunderstandings in the data requirement specification, the use of an intermediary organisation to link the two datasets and the resulting lack of control over the process, and the timeframe to access and link the data. Importantly, the choice of personal identifiers used to link the data was dictated by what was available on both datasets (i.e. the young women's date of birth and full postcode at the time of the pregnancy outcome) and this proved to be inadequate for this purpose. Comparing the new linked dataset to existing data on subsequent teenage pregnancy in England and Wales raised concerns about the match completeness. At most, the findings suggested that teenagers who have more than one pregnancy are a mobile population, especially those who become mothers. This thesis therefore advocates for a consistent unique identifier, such as NHS number, to be included on all abortion notification forms so these can be more readily linked with birth registration and other streams of health data for health surveillance and policy purposes.

This is the first known study that has described the experiences of subsequent pregnancy following abortion among young women aged under-20 in the UK. As such, it has provided an important starting point for future research on this topic. However, the qualitative sample consisted of an ethnically homogenous group of young women based in one area of England. Previous research has highlighted substantial variation in conception and abortion rates by geographic area (Bradshaw *et al*, 2005) and suggests that deprivation explains about three quarters of this area variation. Other factors not included in the models used, such as social and cultural influences and variations in services, were also thought to play a part. In terms of the data collection, it may have been more constructive

to have used fewer research sites, as it was difficult to maintain close contact with five sites. In most cases recruitment only took place when the postgraduate research student was present, meaning that some eligible young women were inevitably missed. It was also unclear whether access was prevented by gatekeeping practices. Although the sampling strategy was to approach all eligible young women, those who took part in the study chose to do so, and as such it is possible that they were somehow differently motivated from those who declined.

Interpretive Phenomenological Analysis (IPA) was used for the qualitative research strand which seeks to understand the meaning individuals ascribed to their experiences. The approach focuses on small samples so there are therefore potential issues around reliability, validity and generalisation. The interpretive element of IPA also means that the findings are subject to researcher bias. However, IPA offers a degree of transparency by following a clear analytical framework and it is also advised to ground interpretations in the young women's own narratives and understandings by using verbatim quotes. The interviews used to capture the young women's stories were one-off events. Thus, it was only possible to access the accounts that the young women chose to give on that day. Changes over time could not be followed up, and further interviews might have enabled a more nuanced understanding to emerge. However, some individuals may have been more willing to share their experiences because they knew that they were unlikely to see the interviewer again. Another potential issue was recall bias, which may have presented a threat to the validity of the study due to the retrospective nature of the interviews. For a couple of the young women, it had been up to four years since their first abortion, which also may have meant differences in the services they accessed compared with what is available now. However, participant attrition would have been a significant concern if a prospective, follow-up interview design had been use. In addition, as only a proportion of young women in a sample of pregnant young women would have become pregnant again; a much larger sample would have been needed. Finally, the findings only focused on the experiences and stories of the young women

interviewed. It would have been useful capture the perspectives of their male partners, the missing half of the equation.

10.3 Conclusions

As the findings in this thesis have shown, subsequent teenage pregnancy is often an overlooked but important issue. This thesis has contributed to the emerging literature on teenagers who have more than one pregnancy and also breaks new ground. The data linkage study was unable to provide a more complete picture of teenagers who have more than one pregnancy in England and Wales. However, it has built a strong case to advocate for a change in routine data collection to include a consistent unique personal identifier (i.e. NHS number) on *ALL* abortion notification forms so that these can be linked more accurately with birth data and other datasets. Literature on the factors associated with subsequent teenage pregnancy mainly originates from the US, and this is limited by inconsistent outcome reporting between studies, different populations, and variations in quality (Meade & Ickovics, 2005; Whitaker *et al*, 2016). Only one study was identified in the UK which looked at a limited number of risk factors for subsequent childbearing (Crawford *et al*, 2013). The only factor which was consistently associated with a reduction in subsequent teenage pregnancy was the use of LARC methods postpartum or post-abortion. However, there remain barriers to access, uptake, and continuation of these methods.

The reasons the young women in this study gave for having a subsequent pregnancy following an abortion were complex and varied. Each pregnancy was mediated by a range of feelings and circumstances which made it unique. Therefore, young women who have more than one pregnancy should not be seen as a homogenous group – they have different motivations and influences (personal, interpersonal and structural) on their choices and behaviours prior to pregnancy. Moreover, when confronting each pregnancy, their course of action may vary. Often the young women were trying to manage their fertility in the

context of stressful life events and other challenges, and this was balanced against issues such as believing they could not get pregnant, low self-efficacy, uncertain pregnancy intentions or partners who supported or encouraged contraceptive risk-taking or who wanted to have a child themselves. Some young women appeared to have been let down by their preferred method of contraception or struggled to use it effectively. The research illustrated that young women's choices prior to pregnancy cannot be seen in isolation from the wider contextual issues such as social norms, service provision and government policy. To make change possible, any support to empower young women to make informed contraceptive and reproductive choices will need to account for this and recognise what is appropriate for them at a particular time in their lives. Barriers related to service provision and the fragmentation of services must also be overcome to enable, rather than negate, individual agency.

10.4 Further implications for policy and practice

This thesis has highlighted that subsequent teenage pregnancy is a complex and nuanced issue. There remains much more to be done to better understand this population of young women and address their unmet needs. A number of different policy and practice implications were apparent within the data.

10.4.1 Data on subsequent teenage pregnancies in England and Wales

Despite extensive efforts, there remains a challenge to understanding the true extent of teenagers who have more than one pregnancy in England and Wales. This information is essential, as it could be used to inform policy and service planning in relation to subsequent teenage pregnancy, to monitor year-on-year trends, and evaluate interventions.

- **Look to include a unique identifier on *ALL* abortion notification records**, which is consistently used by different service providers and recorded on electronic datasets to allow for accurate data linkage with ONS birth data.

This would also make it possible to determine the completeness and accuracy of data included on the HSA4 form for the number of previous abortions and previous births.

- **Further explore alternative possibilities to estimate the proportion of teenagers who have more than one pregnancy in England and Wales**. In hindsight THIN data may have provided a more comprehensive picture than the approach used. Working with an experienced data manager may be necessary given the complexity of identifying pregnancies using multiple Read codes and estimating the date of conception. Alternatively, it might be possible to select a number of NHS Trusts in England and Wales which deliver both abortion and maternity services and undertake a retrospective study using patient record-based data.

10.4.2 Managing fertility following an abortion

Most young women in this study were initially motivated to prevent further pregnancy following an abortion but, often for multiple and diverse reasons, they became pregnant again. The way the young women experienced subsequent pregnancies were different. Some said that they did not want this to happen so soon, while others planned their pregnancies or were fatalistic about becoming pregnant (which was often entwined with concerns about their own fertility). In terms of implications for policy and practice, there were four elements of interest, which are as follows:

<u>Recognising the intendedness of subsequent pregnancy</u>

Young women will have different support needs depending on their motivation to avoid further pregnancy.

- **Recognise that some previously pregnant young women make a conscious decision to become pregnant again in the near future**. As such,

their support needs may be very different to young women who genuinely want to avoid further pregnancy or who are uncertain about their pregnancy intentions. Consideration must be given to these young women's motivations for childbearing and while no particular view is taken within this thesis on whether this should be perceived as a problem, it is important that young women recognise that there may be alternative life-choices (this may require societal changes far beyond the scope of a healthcare provider). It must also be acknowledged that pregnancy intention can be influenced by partner-specific factors as well.

- **Some young women appear to change their mind about wanting to become pregnant within months of a previous pregnancy.** Young women's lives are not static; in fact, adolescence is recognised as a time of rapid change. When young women are uncertain of their pregnancy intentions this may influence contraceptive use and therefore pregnancy can occur as a default rather than choice. For these young women a LARC method could help delay further pregnancies. Regular follow-up and improving the young women's health literacy may help enhance continuation of LARC and non-LARC methods. This may mean they are less inclined to leave pregnancy to chance or believe not becoming pregnant signifies that they are sub-fertile.

Abortion care and post-abortion contraception

The findings from this study echo and extend the recommendations contained within the NICE Guidelines on contraceptive services for under-25s after an abortion. Specifically:

- **Explain the full range of methods of contraception available before, at the time, and after an abortion.** Healthcare staff with specialist training in contraception should help young women (and their partners where appropriate) to compare the risks and benefits of the different methods,

dispel common misconceptions and engage them to develop a future contraceptive plan. There should be a focus on LARC methods (especially improved awareness of the different methods and actually showing young women the IUD/IUS or what the contraceptive implant looks like under the skin) but it should also be recognised that one size does not fit all, and an empowerment approach should be taken to enable young women to choose a method which is right for them rather than feeling they have been persuaded to use a particular method. Condom use for STI prevention should be promoted.

- **Where possible and medically appropriate, all methods should be made available at the time of an abortion**. This means ensuring the availability of sufficient numbers of trained staff to provide LARC methods and commissioning of full contraceptive provision by abortion providers. Also, when providing user-dependent methods such as the contraceptive pill, it would be helpful to prescribe more than a month's supply. Young women must be clearly informed of where to go for follow-up services.

- **If contraception is not accessed at the time of an abortion, a referral to their preferred local contraceptive provider should be offered.** Some young women will not want to make a decision about contraception at the time of their abortion, while for others their chosen method may not be available (e.g. if they opt for the coil and have a home-based medical abortion). These young women should be offered follow-up contact. This should also be offered to young women who do not want to be referred to a contraceptive provider to provide advice on the different methods of contraception after an abortion (subject to their intentions around pregnancy at the time).

- **Recognise that becoming pregnant does not necessarily prevent young women from engaging in unsafe sex.** If young women have experienced issues with inconsistent and sometimes incorrect usage of user-dependent contraception prior to pregnancy, and they wish to continue with the same method after, then ways to support their use should be explored. The young women should also be encouraged to return to a contraceptive service should they experience problems with their chosen method and be made aware of how to safely switch within and between methods of contraception.

- **Provide an advance supply of emergency contraception (EC) to young women who use condoms or the oral contraceptive pill as their primary contraceptive method after have an abortion.** On the whole, the young women wanted to avoid pregnancy, at least initially. Trials of advance supply of emergency contraception have shown that women do not always use this even when they have had unprotected sex (Glasier *et al*, 2004; Raine *et al*, 2005) but it provides a means for them to regain control of their fertility and alleviates barriers to access. Service providers also need to reassure young women that emergency contraception use is a responsible decision.

- **Abortion providers must be sensitive to young women's needs** and recognise that negative experiences may discourage young women from engaging with information and advice both at the time of an abortion and in the future. Therefore, it is important for abortion providers and referral services to provide sensitive and non-judgemental care and ensure each young woman is treated according to her own individual circumstances.

- **Flexible, confidential and young-person friendly contraceptive services**. Some of the young women talked about barriers to obtaining

contraception, such as embarrassment about raising the topic or confidentiality when living in a small areas. This may mean they are less likely to return if they experience problems or run out of their chosen contraception. Young women need to be reassured about the confidentiality of contraceptive services and have access to female doctors or nurses, if they wish, in place which are convenient for them.

Addressing myths and misinformation

There are a number of common myths and misinformation about contraception and the effects of abortion on fertility, and it is important for young women to know the facts.

- **Peer educators may help to address prevalent fears of side effect and concerns about the safety of contraception, especially LARC methods.** Given the influential role of 'informal information' on contraceptive decision-making, peer educators could share experiences about different methods of contraception. This could help to dispel some of these myths and misinformation that exist. Young women should also be provided with information on trustworthy websites if they want to do their own research.

- **Improve fertility awareness among young women** by explaining that they can get pregnant almost immediately following an abortion and that the risk of abortion affecting their future fertility is low. Fertility awareness equally applies to young women who give birth.

While improving contraception is an essential step in helping young women to manage their fertility, the specific contexts of their lives can make such choices, and acting on them, challenging.

- **Consider the role of an outreach nurse or support worker in local areas**. Local examples have shown these can have a positive effect on reducing the number of subsequent teenage pregnancies; although these are under-evaluated at present. As some young women had complex lives and other needs, support needed to extended far beyond contraception to addressing their psychosocial issues and encouragement of life choices. This professional could also help support increased access to other services. The literature suggested the importance of personalised care to meet the complex problems faced by the young women, helping them to take control and plan for the future, and situating support within the broader contexts of the young women's lives (Whitiker *et al*, 2016). Such a broad role will require a range of skills, and ability to work with young women on their own terms rather than in a structured way.

- **All pregnant teenagers are a 'high risk' group for further pregnancies.** The scoping review revealed that, aside from not using LARC methods, few factors were consistently associated with subsequent teenage pregnancy and this likely due to the heterogeneity within the studies. Interventions should therefore universally target all young women who have been pregnant, as many go on to become pregnant again.

- **Recognise the role of male partners in subsequent pregnancies.** The importance of having positive relationships should be encourage so young women are not coerced into sex or pregnancy. It should also be also recognised that male partners have their own motivations towards pregnancy and these can be a key determinate of young women's own pregnancy intentions. This means that prevention efforts need to involve both young men and young women.

- **Access to good quality sex and relationships education remains important,** not only for reducing first-time pregnancies but also many of the young women who go on to have a subsequent pregnancy following an abortion will be of school age when they first become pregnant.

Addressing misleading language and stigma

The qualitative study revealed that pregnancies are distinct but cumulative experiences.

- **Rethink the language of 'repeat' teenage pregnancy**. The term 'repeat' can have negative connotations and disguises the complex and diverse circumstances of young women who experience teenage pregnancy. This may help to reduce stigma and improve access to services.

While it is beyond the scope of the recommendations in this thesis, it is also important to note that there are a range of structure barriers which need addressing as these can inhibit a young woman's choices in life.

10.5 Areas for future research

In the UK, there is little research in the area of subsequent teenage pregnancy and it remains an issue worthy of further research. This study has highlighted certain areas where future research would be helpful.

- This is the first known study in the UK study which has explored the experiences of young women under-20 who become pregnant following an abortion, also taking into consideration contextual life factors and choices. It is important to continue a commitment to listening to these voices and better understanding unmet needs, by looking at more demographic and ethnically diverse samples.

- Further research should consider interviewing ‘dyads’ (couples) to compare and contrast their accounts. What role do men play in the prevention of subsequent pregnancy following a maternity or an abortion? How do male partner pregnancy intentions influence young women’s contraceptive and pregnancy decision-making?

- Further prospective research should focus on identifying which young women are most at risk of having more than one pregnancy within a UK context, ensuring the comparability and generalisation of the results, and the ability to explore the data by different pregnancy outcomes.

- Undertake research looking at post-abortion LARC use among young women under-20, including specific issues around access to contraception immediately after an abortion, geographic variation and method discontinuation.

- Consider developing and evaluating, by means of randomised control trial, a ‘key worker’ intervention to support previously pregnant young women with contraceptive outreach, and to increase access to other services to help them better manage their reproductive lives.

- There may also be scope for a randomised control trial looking at the effects of peer educators on decreasing misperceptions about methods of contraception and improving health literacy among previously pregnant teenagers.

References

Adams, B. N., McAnarney, E. R., Panzarine, S., & Tuttle, J. I. (1990). Successful contraceptive behavior among adolescent mothers: are there predictors? *Journal of Adolescent Health Care, 11*(4), 319-325.

Abell, J., Locke, A., Condor, S., Gibson, S., & Stevenson, C. (2006). Trying similarity, doing difference: the role of interviewer self-disclosure in interview talk with young people. *Qualitative Research*, *6*(2), 221-244.

Agurcia, C. A., Rickert, V. I., Berenson, A. B., Volk, R. J., & Wiemann, C. M. (2001). The behavioral risks and life circumstances of adolescent mothers involved with older adult partners. *Archives of Pediatrics & Adolescent Medicine, 155*(7), 822-830.

Allen, E., Bonell, C., Strange, V., Copas, A., Stephenson, J., Johnson, A., & Oakley, A. (2007). Does the UK government's teenage pregnancy strategy deal with the correct risk factors? Findings from a secondary analysis of data from a randomised trial of sex education and their implications for policy. *Journal of Epidemiology and Community Health, 61*(1), 20-27.

Arai, L. (2003). British policy on teenage pregnancy and childbearing: the limitations of comparisons with other European countries. *Critical Social Policy, 23*(1), 89-102.

Arai, L. (2009). *Teenage Pregnancy: The Making and Unmaking of a Problem*: Bristol: Policy Press.

Archibald, A. B., Graber, J. A., & Brooks-Gunn, J. (2006). Pubertal processes and physiological growth in adolescence. In G. R. Adams, & M. D. Berzonsky (Eds.), *Blackwell Handbook of Adolescence* (pp. 22-47). Oxford: Blackwell Publishing.

Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology, 8*(1), 19-32.

Armstrong, R., Hall, B. J., Doyle, J., & Waters, E. (2011). 'Scoping the scope' of a cochrane review. *Journal of Public Health, 33*(1), 147-150.

Augustine, J. M., Nelson, T., & Edin, K. (2009). Why do poor men have children? Fertility intentions among low-income unmarried US fathers. *The ANNALS of the American Academy of Political and Social Science*, *624*(1), 99-117.

Bachrach, C. A., & Newcomer, S. (1999). Intended pregnancies and unintended pregnancies: distinct categories or opposite ends of a continuum? *Family Planning Perspectives, 31*(5), 251-252.

Bajos, N., Guillaume, A., & Kontula, O. (2003a). *Reproductive health behaviour of young Europeans,* Vol. 1. Strasbourg: Council of Europe Publishing.

Bajos, N., Leridon, H., Goulard, H., Oustry, P., Job-Spira, N., & Group, C. (2003b). Contraception: from accessibility to efficiency. *Human Reproduction, 18*(5), 994-999.

Baldwin, M. K., & Edelman, A. B. (2013). The effect of long-acting reversible contraception on rapid repeat pregnancy in adolescents: a review. *Journal of Adolescent Health, 52*(4), S47-S53.

Baraister, P. (2008). Sexual health services for young people. In A. Glasier, & A. Gebbie (Eds.), *Handbook of Family Planning and Reproductive Health Care* (pp. 231-248). Oxford: Blackwell Publishing.

Barnet, B., Liu, J., & DeVoe, M. (2008). Double jeopardy: depressive symptoms and rapid subsequent pregnancy in adolescent mothers. *Archives of Pediatrics & Adolescent Medicine, 162*(3), 246-252.

Barrett, G., Smith, S. C., & Wellings, K. (2004). Conceptualisation, development, and evaluation of a measure of unplanned pregnancy. *Journal of Epidemiology and Community Health, 58*(5), 426-433.

Bauman, L. J., & Berman, R. (2005). Adolescent relationships and condom use: trust, love and commitment. *AIDS and Behavior*, *9*(2), 211-222.

Baxter, S., Blank, L., Guillaume, L., Squires, H., & Payne, N. (2011). Views of contraceptive service delivery to young people in the UK: a systematic review and thematic synthesis. *Journal of Family Planning and Reproductive Health Care, 37*(2), 71-84.

Becker, M. H.(1974). The health belief model and personal health behavior. *Health Education Monographs*, *2*, 220-243.

Bellis, M., Morleo, M., Tocque, K., Dedman, D., Phillips-Howard, P., Perkins, C., & Jones, L. (2009). *Contributions of Alcohol Use to Teenage Pregnancy: an Initial Examination of Geographical and Evidence Based Associations*. Liverpool: Centre for Public Health, Liverpool John Moores University.

Bharadwaj, P., Akintomide, H., Brima, N., Copas, A., & D'Souza, R. (2012). Determinants of long-acting reversible contraceptive (LARC) use by adolescent girls and young women. *The European Journal of Contraception & Reproductive Health Care*, *17*(4), 298-306.

Bjork, J. M., & Pardini, D. A. (2015). Who are those "risk-taking adolescents"? Individual differences in developmental neuroimaging research. *Developmental cognitive neuroscience*, *11*, 56-64.

Bibby, P., Brindley, P, . (2013). *Urban and rural area definitions for policy purposes in England and Wales: methodology* (v1.0). London: ONS. Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239477/RUC11methodologypaperaug_28_Aug.pdf [accessed 2nd May 2016].

Birch, D. M. (1998). The adolescent parent: A fifteen year longitudinal study of school-age mothers and their children. *International Journal of Adolescent Medicine and Health, 10*(2), 141-153.

Black, K. I., Mercer, C. H., Johnson, A. M., & Wellings, K. (2006a). Sociodemographic and sexual health profile of users of emergency hormonal contraception: data from a British probability sample survey. *Contraception, 74*(4), 309-312.

Black, M. M., Bentley, M. E., Papas, M. A., Oberlander, S., Teti, L. O., McNary, S., . . . O'Connell, M. (2006b). Delaying second births among adolescent mothers: a randomized, controlled trial of a home-based mentoring program. *Pediatrics, 118*(4), e1087-e1099.

Blumenthal, P. D., Wilson, L. E., Remsburg, R. E., Cullins, V. E., & Huggins, G. R. (1994). Contraceptive outcomes among post-partum and post-abortal adolescents. *Contraception, 50*(5), 451-460.

BMA (British Medical Assoication)/ NHS Employers. (2009). *Quality and Outcomes Framework: guidance for GMS contract 2009/10*. London: BMA/NHS Employers. Available online from: https://www.lmc.org.uk/visageimages/guidance/2009/qofguidance0309.pdf [accessed 2nd May 2016].

Boardman, L. A., Allsworth, J., Phipps, M. G., & Lapane, K. L. (2006). Risk factors for unintended versus intended rapid repeat pregnancies among adolescents. *Journal of Adolescent Health, 39*(4), 597. e591-597. e598.

Bonell, C. (2004). Why is teenage pregnancy conceptualized as a social problem? A review of quantitative research from the USA and UK. *Culture, Health & Sexuality, 6*(3), 255-272.

Bonell, C., Allen, E., Strange, V., Copas, A., Oakley, A., Stephenson, J., & Johnson, A. (2005). The effect of dislike of school on risk of teenage pregnancy: testing of hypotheses using longitudinal data from a randomised trial of sex education. *Journal of Epidemiology and Community Health*, *59*(3), 223-230.

Bonell, C., Allen, E., Strange, V., Oakley, A., Copas, A., Johnson, A., & Stephenson, J. (2006). Influence of family type and parenting behaviours on teenage sexual behaviour and conceptions. *Journal of Epidemiology and Community Health, 60*(6), 502-506.

Boonstra, H. D., Nair, M. K., Leena, M. L., George, B., Thankachi, Y., Russell, P. S., ... & Alford, S. (2014). What is behind the declines in teen pregnancy rates? *Guttmacher Policy Review*, *17*(3), 15-21.

Borrero, S., Nikolajski, C., Steinberg, J. R., Freedman, L., Akers, A. Y., Ibrahim, S., & Schwarz, E. B. (2015). "It just happens": a qualitative study exploring low-income women's perspectives on pregnancy intention and planning. *Contraception, 91*(2), 150-156.

Botting, B., Rosato, M., & Wood, R. (1998). *Teenage mothers and the health of their children* (pp. 19-28). Population Trends. London: HMSO.

Bradshaw, J., Finch, N., & Miles, J. N. (2005). Deprivation and variations in teenage conceptions and abortions in England. *Journal of Family Planning and Reproductive Health Care, 31*(1), 15-19.

Brannen, J. (2005). *Mixed methods research: a discussion paper*: *NCRM methods review papers, NCRM/005*. London: ESRC National Centre for Research Methods. Available online from: http://eprints.ncrm.ac.uk/89/1/MethodsReviewPaperNCRM-005.pdf [accessed 2nd May 2016].

Brien, J., & Fairbairn, I. (1996). *Pregnancy and Abortion Counselling*. London: Taylor & Francis.

Brindis, C. D. (2006). A public health success: understanding policy changes related to teen sexual activity and pregnancy. *Annual Review of Public Health, 27*, 277-295.

Broecke, S., & Hamed, J. (2008). *Gender gaps in higher education participation: An analysis of the relationship between prior attainment and young participation by gender, socio-economic class and ethnicity*. Munich: MPRA, 35595(27). Available online from: https://mpra.ub.uni-muenchen.de/35595/1/MPRA_paper_35595.pdf [accessed 2nd May 2016].

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.

Brown, B. B. (1999). "You're going out with who?": peer group influences on adolescent romantic relationships. In W. Furman, B.B. Brown, & Feiring, C. (Eds.), *The Development of Romantic Relationships in Adolescence* (pp. 291-329). Cambridge: Cambridge University Press.

Brown, S., & Guthrie, K. (2010). Why don't teenagers use contraception? A qualitative interview study. *The European Journal of Contraception & Reproductive Health Care, 15*(3), 197-204.

Brown, S. S., & Eisenberg, L. (1995). *The best intentions: unintended pregnancy and the well-being of children and families*. Washington, DC: National Academies Press.

Brückner, H., Martin, A., & Bearman, P. S. (2004). Ambivalence and pregnancy: adolescents' attitudes, contraceptive use and pregnancy. *Perspectives on Sexual and Reproductive Health, 36*(6), 248-257.

Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research, 1*(1), 8-22.

Bull, S., & Hogue, C. J. (1998). Exploratory analysis of factors associated with teens' repeated childbearing. *Journal of Health Care for the Poor and Underserved*, *9*(1), 42-61.

Bunting, L., & McAuley, C. (2004). Research review: teenage pregnancy and parenthood: The role of fathers. *Child & Family Social Work*, *9*(3), 295-303.

Bury, L., Hoggart, L., & Newton, V. L. (2015). *Young women's of unitended pregnancy and abortion: key findings.* Milton Keynes: The Open University. Available online from: http://oro.open.ac.uk/45138/1/MSI_key-findings_10-15_email.pdf [accessed 2nd May 2016].

Bury, L., Hoggart, L., & Newton, V. L. (2014). *"I thought I was protected" Abortion, contraceptive uptake and use among young women: a quantitative survey*. Milton Keynes: The Open University. Available online from: http://oro.open.ac.uk/45140/1/MSI_quantreport_final_10-15.pdf [accessed 2nd May 2016].

Cameron, S. (2014). Postabortal and postpartum contraception. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *28*(6), 871-880.

Cameron, S. T., Glasier, A., Chen, Z. E., Johnstone, A., Dunlop, C., & Heller, R. (2012). Effect of contraception provided at termination of pregnancy and incidence of subsequent termination of pregnancy. *BJOG: An International Journal of Obstetrics & Gynaecology*, *119*(9), 1074-1080.

Casey, B. J., & Caudle, K. (2013). The teenage brain: self control. *Current Directions in Psychological Science*, *22*(2), 82-87.

Casey, B. J., Jones, R. M., & Hare, T. A. (2008). The adolescent brain. *Annals of the New York Academy of Sciences*, *1124*(1), 111-126.

Casey, B. J., Tottenham, N., Liston, C., & Durston, S. (2005). Imaging the developing brain: what have we learned about cognitive development?. *Trends in cognitive sciences*, *9*(3), 104-110.

Cater, S., & Coleman, L. (2006). *'Planned' Teenage Pregnancy: Views and Experiences of Young People from Poor and Disadvantaged Backgrounds*. York: Joseph Rowntree Foundation.

Cea-Soriano, L., García Rodríguez, L. A., Fernández Cantero, O., & Hernández-Díaz, S. (2013). Challenges of using primary care electronic medical records in the UK to study medications in pregnancy. *Pharmacoepidemiology and Drug Safety, 22*(9), 977-985.

Cheung, E., & Free, C. (2005). Factors influencing young women's decision making regarding hormonal contraceptives: a qualitative study. *Contraception*, *71*(6), 426-431.

Churchill, R., Allen, J., Denman, S., Williams, D., Fielding, K., & von Fragstein, M. (2000a). Do the attitudes and beliefs of young teenagers towards general practice influence actual consultation behaviour?. *British Journal of General Practice*, *50*(461), 953-957.

Churchill, D., Allen, J., Pringle, M., & Hippisley-Cox, J. (2002). Teenagers at risk of unintended pregnancy: identification of practical risk markers for use in general practice from a retrospective analysis of case record in the United Kingdom. *International Journal of Adolescent Medicine and Health*, *14*(2), 153-160.

Churchill, D., Allen, J., Pringle, M., Hippisley-Cox, J., Ebdon, D., Macpherson, M., & Bradley, S. (2000b). Consultation patterns and provision of contraception in general practice before teenage pregnancy: case-control study. *British Medical Journal, 321*(7259), 486-489.

Clarke, J. (2010). Repeat teenage pregnancy in two cultures - the meanings ascribed by teenagers. *Children & Society, 24*(3), 188-199.

Cleland, J., Ingham, R., & Stone, N. (2001). *Asking young people about sexual and reproductive behaviours: illustrative core instruments*. Geneva: WHO. Available online from: http://www.who.int/reproductivehealth/topics/adolescence/core_instruments/en/ [accessed 2nd May 2016].

Clements, S., Stone, N., Diamond, I., & Ingham, R. (1998). Modelling the spatial distribution of teenage conception rates within Wessex. *The British Journal of Family Planning, 24*(2), 61-71.

Coard, S. I., Nitz, K., & Felice, M. E. (2000). Repeat pregnancy among urban adolescents: sociodemographic, family, and health factors. *Adolescence, 35*(137), 193.

Cockerham, W. C. (2005). Health lifestyle theory and the convergence of agency and structure. *Journal of Health and Social Behavior*, *46*(1), 51-67.

Cockrill, K., & Nack, A. (2013). "I'm not that type of person": managing the stigma of having an abortion. *Deviant Behavior, 34*(12), 973-990.

Cohen, S. A. (2007). Repeat abortion, repeat unintended pregnancy, repeated and misguided government policies. *Guttmacher Policy Review, 10*(2), 8-12.

Coleman, J., & Hagell, A. (2007). The nature of risk and resilience in adolescence. In J. Coleman, & A. Hagell (Eds.), *Adolescence, Risk and Resilience: Against the Odds* (pp. 1-16). Chichester: John Wiley & Sons.

Collier, J. (2009). The rising proportion of repeat teenage pregnancies in young women presenting for termination of pregnancy from 1991 to 2007. *Contraception, 79*(5), 393-396.

Collier, J. (2014). Erratum to "The rising proportion of repeat teenage pregnancies in young women presenting for termination of pregnancy from 1991 to 2007" [Contraception 79 (2009) 393–396]. *Contraception, 89*(5), 475-477.

Connolly, A., Pietri, G., Yu, J., & Humphreys, S. (2014). Association between long-acting reversible contraceptive use, teenage pregnancy, and abortion rates in England. *International Journal of Women's Health, 6*, 961.

Conroy, K., Engelhart, T., Martins, Y., Huntington, N., Snyder, A., Coletti, K., & Cox, J. (2016). The enigma of rapid repeat pregnancy: a qualitative study of teen mothers. *Journal of Pediatric and Adolescent Gynecology, 29*(3), 312-317.

Corcoran, J., & Pillai, V. K. (2007). Effectiveness of secondary pregnancy prevention programs: a meta-analysis. *Research on Social Work Practice, 17*(1), 5-18.

Covington, D., Churchill, M., Wright, B., Plummer, J., Cushing, D., & McCorkle, B. (1991). Adolescent rapid repeat pregnancy: problem and intervention in a North Carolina hospital. *Health Values, 15*, 43-48.

Cox, J. E., Buman, M. P., Woods, E. R., Famakinwa, O., & Harris, S. K. (2012). Evaluation of raising adolescent families together program: a medical home for adolescent mothers and their children. *American Journal of Public Health, 102*(10), 1879-1885.

Coxon, K., Scamell, M., & Alaszewski, A. (2012). Risk, pregnancy and childbirth: what do we currently know and what do we need to know? An editorial. *Health, Risk & Society, 14*(6), 503-510.

Crawford, C., Cribb, J., & Kelly, E. (2013). *Teenage pregnancy in England. CAYT impact study: report No. 6*. London: CAYT. Available online from: http://www.ifs.org.uk/caytpubs/caytreport06.pdf [accessed 2nd May 2016].

Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. London: Sage.

Creswell, J., & Plano Clark (2011). Designing and conducting mixed methods research (2nd edn). Thousand Oaks, California: Sage.

Crittenden, C. P., Boris, N. W., Rice, J. C., Taylor, C. A., & Olds, D. L. (2009). The role of mental health factors, behavioral factors, and past experiences in the prediction of rapid repeat pregnancy in adolescence. *Journal of Adolescent Health, 44*(1), 25-32.

Crockett, L. J. & Crouter, A. C. (1995) *Pathways through adolescence: an overview*. Faculty Publications, Department of Psychology, Paper 240. Available online from: http://digitalcommons.unl.edu/psychfacpub/240 [accessed 2nd May 2016].

Crocket, L. J., Raffaelli, M., & Moilanen, K. L. (2006) Adolescent sexuality: behavior and meaning. In G. R. Adams, & M. D. Berzonsky (Eds.), *Blackwell Handbook of Adolescence* (pp. 371-392). Oxford: Blackwell Publishing.

Crockett, L. J., & Petersen, A. C. (1993). Adolescent development: health risks and opportunities for health promotion. In S. G. Millstein, A. C. Petersen, & E. O. Nightingale (Eds.), *Promoting the Health of Adolescents: New Directions for the Twenty-First Century* (pp. 13–37). New York: Oxford University Press.

Cunnington, A. J. (2001). What's so bad about teenage pregnancy? *Journal of Family Planning and Reproductive Health Care, 27*(1), 36-41.

Daguerre, A. (2006) Teenage pregnancy and parenthood in England. In A. Daguerre, & C. Nativel (Eds.), *When Children Become Parents: Welfare State Responses to Teenage Pregnancy* (pp.67-88). Bristol: The Policy Press.

Dailard, C. (2005). Promoting prevention to reduce the need for abortion: good policy, good politics. *Guttmacher Report on Public Policy, 8*(2).

Darroch, J. E., Singh, S., & Frost, J. J. (2001). Differences in teenage pregnancy rates among five developed countries: the roles of sexual activity and contraceptive use. *Family Planning Perspectives*, 244-281.

Daudt, H. M., Van Mossel, C., & Scott, S. J. (2013). Enhancing the scoping study methodology: a large, inter-professional team's experience with Arksey and O'Malley's framework. *BMC Medical Research Methodology, 13*(1), 1.

Davis, T. M. (2002). An examination of repeat pregnancies using Problem Behavior Theory: is it really problematic? *Journal of Youth Studies, 5*(3), 337-351.

DCLG (Department for Communities and Local Government). (2011). The English Indices of Multiple Deprivation. London: DCLG. Available online from: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2010 [accessed 2nd May 2016].

Devine, S., West, S., Andrews, E., Tennis, P., Hammad, T. A., Eaton, S., . . . Olshan, A. (2010). The identification of pregnancies within the general practice research database. *Pharmacoepidemiology and Drug Safety, 19*(1), 45-50.

DfE (Department for Education). (2015). *Policy paper: 2010 to 2015 government policy: young people*. London: DfE. Available online from: https://www.gov.uk/government/publications/2010-to-2015-government-policy-young-people/2010-to-2015-government-policy-young-people [accessed 10th May 2016].

DfSE (Department for Skills and Education). (2006a). *Teenage pregnancy next steps: guidance for local authorities and primary care trusts on effective delivery of local strategies*. London: DfSE.

DfSE (Department for Skills and Education). (2006b). *Teenage pregnancy: accelerating the strategy to 2010*. London: DfSE.

DfSE (Department for Skills and Education). (2006c). *Sure Start children's centres: practical guidance*. London: DfSE. Available online from: http://217.35.77.12/archive/england/papers/welfare/files/46_pdfs/P0001859.pdf [accessed 2nd May 2016].

DH (Department of Health). (1991). *Abortion statistics, England and Wales: 1991* (unpublished). Available on request from the Department of Health abortion statistics team.

DH (Department of Health). (2004a). *National Service Framework for Children, Young People and Maternity Services*. London: DH.

DH (Department of Health). (2004b). *Best practice guidance for doctors and other health professionals on the provision of advice and treatment to young people under 16 on contraception, sexual and reproductive health*. London: DH. Available online from: https://www.bashh.org/documents/1993.pdf [accessed 2nd May 2016].

DH. (Department of Health). (2001). *Better Prevention, Better services, better sexual health - The national strategy for sexual health and HIV*. London: DH. Available online from:https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142592/9287-2900714-TSO-SexualHealthPolicyNW_ACCESSIBLE.pdf [accessed 2nd May 2016].

DH (Department of Health). (2007). *Abortion statistics, England and Wales: 2006*. Available online from: http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_075697 [accessed 10th May 2016].

DH (Department of Health). (2012a). *Public Health Outcomes Framework*, 2013 – 2016. London: DH Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216159/dh_132362.pdf [accessed 2nd May 2016].

DH (Department of Health). (2013). *A Framework for Sexual Health Improvement in England.* London: DH. Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142592/9287-2900714-TSO-SexualHealthPolicyNW_ACCESSIBLE.pdf [accessed 2nd May 2016].

DH (Department of Health). (2014a). *Abortion Statistics, England and Wales: 2013*. London: DH Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319460/Abortion_Statistics__England_and_Wales_2013.pdf [accessed 2nd May 2016].

DH (Department of Health Department of Health (2014b) *Repeat abortions to women aged under 19 and under 25, by CCG of residence, England, 2013* - Data table (unpublished) London: DH.

DH (Department of Health). (2015a). Abortion Statistics, England and Wales: 2014. London: DH. Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/433437/2014_Commentary__5_.pdf [accessed May 2nd 2016].

DH (Department of Health). (2015b). *Disclosure control for abortion statistics*. London: DH. Available online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/433400/Disclosure_Control_Protocol.pdf [accessed 2nd May 2016].

Diamond, I., Clements, S., Stone, N., & Ingham, R. (1999). Spatial variation in teenage conceptions in south and west England. *Journal of the Royal Statistical Society: Series A (Statistics in Society), 162*(3), 273-289.

Downs, J. S., Bruine de Bruin, W., Murray, P. J., & Fischhoff, B. (2004). When "it only takes once" fails: perceived infertility predicts condom use and STI acquisition. *Journal of Pediatric and Adolescent Gynecology, 17*(3), 224.

Dryfoos, J. G. (1991). *Adolescents at Risk: Prevalence and Prevention*. Oxford: Oxford University Press.

Duncan, S. (2007). What's the problem with teenage parents? And what's the problem with policy? *Critical Social Policy, 27*(3), 307-334.

Eatough, V. and Smith, J.A. (2008) Interpretative Phenomenological Analysis. In C. Willig and W. Stainton-Rogers (Eds.), *The Sage Handbook of Qualitative*: *Research in Psychology* (pp. 179–94). London: Sage.

Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 1025-1034.

Ellertson, C., & Glasier, A. (2008) Contraceptive Choice. In A. Glasier, & A. Gebbie (Eds.), *Handbook of Family Planning and Reproductive Health Care* (pp. 1-22). Oxford: Blackwell Publishing.

Elliot, J. (2005). *Using Narrative in Social Research. Qualitative and Quantitative Approaches*. London: Sage.

Ellis, B. J., Bates, J. E., Dodge, K. A., Fergusson, D. M., John Horwood, L., Pettit, G. S., & Woodward, L. (2003). Does father absence place daughters at special risk for early sexual activity and teenage pregnancy? *Child Development, 74*(3), 801-821.

Falk, G., Östlund, I., Magnuson, A., Schollin, J., & Nilsson, K. (2006). Teenage mothers—a high-risk group for new unintended pregnancies. *Contraception, 74*(6), 471-475.

Finer, L. B., & Philbin, J. M. (2013). Sexual initiation, contraceptive use, and pregnancy among young adolescents. *Pediatrics, 131*(5), 886-891.

Ford, K. (1983). Second pregnancies among teenage mothers. *Family Planning Perspectives, 15*(6), 268-272.

Francis, J., Malbon, K., Braun-Courville, D., Lourdes, L. O., & Santelli, J. (2015). Ambivalence about pregnancy and its association with symptoms of depression in adolescent females initiating contraception. *Journal of Adolescent Health*, *56*(1), 44-51.

Free, C., Lee, R. M., & Ogden, J. (2002). Young women's accounts of factors influencing their use and non-use of emergency contraception: in-depth interview study. *British Medical Journal, 325*(7377), 1393.

Free, C., Ogden, J., & Lee, R. (2005). Young women's contraception use as a contextual and dynamic behaviour: a qualitative study. *Psychology & Health*, *20*(5), 673-690.

Frohwirth, L., Moore, A. M., & Maniaci, R. (2013). Perceptions of susceptibility to pregnancy among US women obtaining abortions. *Social Science & Medicine, 99*, 18-26.

Frost, J. J., & Darroch, J. E. (2008). Factors associated with contraceptive choice and inconsistent method use, United States, 2004. *Perspectives on Sexual and Reproductive Health*, *40*(2), 94-104.

Frost, J. J., Lindberg, L. D., & Finer, L. B. (2012). Young adults' contraceptive knowledge, norms and attitudes: associations with risk of unintended pregnancy. *Perspectives on Sexual and Reproductive Health, 44*(2), 107-116.

FSRH (Faculty for Sexual and Reproductive Health). (2009). *UK medical eligability criteria for contraceptive use 2009*. London: Royal College of Obstetricians and Gynaecologists (RCOG). Available online from: http://www.spdc.pt/files/publicacoes/ 9_11327_2.pdf [accessed 2nd May 2016].

Furstenberg Jr, F. E. (2003). Teenage childbearing as a public issue and private concern. *Annual Review of Sociology*, *29*, 23-39.

Furstenberg Jr, F. F., Brooks-Gunn, J., & Morgan, S. P. (1987). Adolescent mothers and their children in later life. *Family Planning Perspectives*, 142-151.

Gauthier, A. H. (2007). The impact of family policies on fertility in industrialized countries: a review of the literature. *Population Research and Policy Review, 26*(3), 323-346.

Gbolade, B. A. (2000). Teenage pregnancy rates and the age and sex of general practitioners: record linkage analysis could have been used. *British Medical Journal, 321*(7257), 381.

Gilchrist, L. D., Hussey, J. M., Gillmore, M. R., Lohr, M. J., & Morrison, D. M. (1996). Drug use among adolescent mothers: prepregnancy to 18 months postpartum. *Journal of Adolescent Health, 19*(5), 337-344.

Gillmore, M. R., Lewis, S. M., Lohr, M. J., Spencer, M. S., & White, R. D. (1997). Repeat pregnancies among adolescent mothers. *Journal of Marriage and the Family*, 536-550.

Gispert, M., Brinich, P., Wheeler, K., & Krieger, L. (1984). Predictors of repeat pregnancies among low-income adolescents. *Psychiatric Services, 35*(7), 719-723.

Glasier, A., Fairhurst, K., Wyke, S., Ziebland, S., Seaman, P., Walker, J., & Lakha, F. (2004). Advanced provision of emergency contraception does not reduce abortion rates. *Contraception*, *69*(5), 361-366.

Glasier, a. & Gebbie, A. (Eds.). (2008). *Handbook of Family Planning and Reproductive Health Care.* Oxford: Blackwell Publishing.

Glasier, A., Scorer, J., & Bigrigg, A. (2008). Attitudes of women in Scotland to contraception: a qualitative study to explore the acceptability of long-acting methods. *Journal of Family Planning and Reproductive Health Care*, *34*(4), 213-217.

Goffman, E. (1963). *Behavior in Public Places: Notes on the Social Organization of Gatherings*. New York: Free Press.

Gomez, A. M., Fuentes, L., & Allina, A. (2014). Women or LARC first? Reproductive autonomy and the promotion of long-acting reversible contraceptive methods. *Perspectives on Sexual and Reproductive Health*, *46*(3), 171.

Graham, H. and Kelly, M. (2004) *Health Inequalties: Concepts, Frameworks and Policy* London: Health Development Agency.

Gray, S., Sheeder, J., O'Brien, R., & Stevens-Simon, C. (2006). Having the best intentions is necessary but not sufficient: what would increase the efficacy of home visiting for preventing second teen pregnancies? *Prevention Science, 7*(4), 389-395.

Greene, J. C. (2007). *Mixed Methods in Social Inquiry* (Vol. 9). San Francisco, CA: John Wiley & Sons.

Greene, J. C., & Caracelli, V. J. (1997). Defining and describing the paradigm issue in mixed-method evaluation. *New Directions for Evaluation,* (74), 5-17.

Greene, J. & J. Hall (2010) Dialectics and pragmatism: being of consequence. In A. Tashakkori, & C. Teddlie (Eds.), *Sage Handbook of Mixed Methods in Social & Behavioral Research* (pp 119-143). Thousand Oaks: Sage.

Griffin, C., & Phoenix, A. (1994). The relationship between qualitative and quantitative research: Lessons from feminist psychology. *Journal of Community & Applied Social Psychology, 4*(4), 287-298.

Grossman, D., Ellertson, C., Grimes, D. A., & Walker, D. (2004). Routine follow-up visits after first-trimester induced abortion. *Obstetrics & Gynecology*, *103*(4), 738-745.

Grossman, D., & Grindlay, K. (2011). Alternatives to ultrasound for follow-up after medication abortion: a systematic review. *Contraception, 83*(6), 504-510.

Guba, E. G. (1990). The alternative paradigm dialog . In E. G. Guba (Ed.), *The Paradigm Dialog* (pp. 17-28). London: Sage.

Hadley, A., & Evans, D. (2012). Teenage pregnancy and sexual health. *Nursing times, 109*(46), 22, 25-27.

Hall, K. S. (2012). The health belief model can guide modern contraceptive behavior research and practice. *Journal of Midwifery & Women's Health*, *57*(1), 74-81.

Halldén, B.-M., Christensson, K., & Olsson, P. (2005). Meanings of being pregnant and having decided on abortion: young Swedish women's experiences. *Health Care for Women International, 26*(9), 788-806.

Hallgarten, L. (2010a). *Teenagers and 'repeat abortions': contraception is not a magic bullet*. London: BPAS. Available online from: http://www.abortionreview.org/index.php/site/article/770/ [accessed 2nd May 2016].

Hallgarten, L. (2010b). Repeat abortion: is it really a problem? *Reproductive Health Matters* (14/04). Available online from: http://www.rhmjournal.org.uk/2014/04/repeat-abortion-is-it-really-a-problem/ [accessed 2nd May 2016].

Hallgarten, L. & Misaljevich, N. (2007) Reducing Repeat Teenage Conceptions: A Review of Practice. London: Education for Choice.

Han, L., Teal, S. B., Sheeder, J., & Tocce, K. (2014). Preventing repeat pregnancy in adolescents: is immediate postpartum insertion of the contraceptive implant cost effective? *American Journal of Obstetrics and Gynecology, 211*(1), 24. e21-24. e27.

Hardy, J. R., Holford, T. R., Hall, G. C., & Bracken, M. B. (2004). Strategies for identifying pregnancies in the automated medical records of the General Practice Research Database. *Pharmacoepidemiology and Drug Safety, 13*(11), 749-759.

Harel, Z., Biro, F. M., Kollar, L. M., & Rauh, J. L. (1996). Adolescents' reasons for and experience after discontinuation of the long-acting contraceptives Depo-Provera and Norplant. *Journal of Adolescent Health*, *19*(2), 118-123.

Harvey, N., & Gaudoin, M. (2007). Teenagers requesting pregnancy termination are no less responsible about contraceptive use at the time of conception than older women. *BJOG: An International Journal of Obstetrics & Gynaecology, 114*(2), 226-229.

Heidegger, M. (1962). *Being and Time*, trans. J. Macquarrie and E. Robinson. New York: Harper Row.

Heikinheimo, O., Suhonen, S., & Lahteenmaki, P. (2014). Contraception after abortion. In S. Rowlands (Ed), *Abortion Care* (pp. 114-121). Cambridge: Cambridge University Press.

Herek, G. M. (2009). Sexual stigma and sexual prejudice in the United States: a conceptual framework. In D. A. Hope (Ed) *Contemporary Perspectives on Lesbian, Gay, and Bisexual Identities* (pp. 65-111). New York: Springer.

Herrman, J. W. (2005). The teen brain as a work in progress: implications for pediatric nurses. *Pediatric Nursing, 31*(2), 144.

Herrman, J. W. (2006). The voices of teen mothers: the experience of repeat pregnancy. *MCN: The American Journal of Maternal/Child Nursing, 31*(4), 243-249.

Herrman, J. W. (2007). Repeat pregnancy in adolescence: intentions and decision making. *MCN: The American Journal of Maternal/Child Nursing, 32*(2), 89-94.

Higginbottom, G. M. A., Mathers, N., Marsh, P., Kirkham, M., Owen, J., & Serrant-Green, L. (2006). Young people of minority ethnic origin in England and early parenthood: views from young parents and service providers. *Social Science & Medicine, 63*(4), 858-870.

Higgins, J. A., Popkin, R. A., & Santelli, J. S. (2012). Pregnancy ambivalence and contraceptive use among young adults in the United States. *Perspectives on Sexual and Reproductive Health, 44*(4), 236-243.

Hippisley-Cox, J., Allen, J., Pringle, M., Ebdon, D., McPhearson, M., Churchill, D., & Bradley, S. (2000). Association between teenage pregnancy rates and the age and sex of general practitioners: cross sectional survey in Trent 1994-7. *BMJ, 320*(7238), 842-845.

Hirst, J. (2008). Developing sexual competence? Exploring strategies for the provision of effective sexualities and relationships education. *Sex education, 8*(4), 399-413.

Hirst, J. (2013). 'It's got to be about enjoying yourself': young people, sexual pleasure, and sex and relationships education. *Sex Education, 13*(4), 423-436.

Hochbaum, G. M. (1958). *Public Participation in Medical Screening Programs: A Socio-Psychological Study*. US Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services, Division of Special Health Services, Tuberculosis Program.

Hoggart, L. (2003). Teenage pregnancy: the government's dilemma. *Capital & Class, 27*(1), 145-165.

Hoggart, L. (2006). *Risk: young women and sexual decision-making*. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, *7*(1), 28. Available online from: http://www.qualitative-research.net/index.php/fqs/article/view/57/117 [accessed 6th May 2016].

Hoggart, L. (2012). 'I'm pregnant… what am I going to do?'An examination of value judgements and moral frameworks in teenage pregnancy decision-making. *Health, Risk & Society, 14*(6), 533-549.

Hoggart, L., Newton, V. L., & Bury, L. (2015). *How could this happen to me? Young women's experiences of unintended pregnancies: a qualitative study.* Milton Keynes: Open University Publishing. Available online from: http://oro.open.ac.uk/45139/1/MSI_quali-report_10-15_final_email.pdf [accessed 6th May 2016].

Hoggart, L., Newton, V. L., & Dickson, J. (2013). "I think it depends on the body, with mine it didn't work": explaining young women's contraceptive implant removal. *Contraception, 88*(5), 636-640.

Hoggart, L., & Phillips, J. (2011). Teenage pregnancies that end in abortion: what can they tell us about contraceptive risk-taking?. *Journal of Family Planning and Reproductive Health Care*, *37*(2), 97-102.

Hoggart, L., Phillips, J., Birch, A., & Koffman, O. (2010). *Young people in London: abortion and repeat abortion*. London: Government Office For London. Available online from: http://oro.open.ac.uk/38797/1/tpyoungpeopleinlondonabortionandrepeatabortion.pdf [accessed 2nd May 2016].

Holmberg, L., & Berg-Kelly, K. (2002). Health, health-compromising behaviour, sexuality and involvement in pregnancy among 18-year-old Swedish males: a cross-sectional survey. *Acta Paediatrica, 91*(7), 838-843.

Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational Researcher, 17*(8), 10-16.

Howe, K. R. (2004). A critique of experimentalism. *Qualitative Inquiry, 10*(1), 42-61.

HSCIC (Health and Social Care Information Centre). (2015). *Sexual and reproductive health services, England statistics for 2014-15*. Available online from: http://www.hscic.gov.uk/catalogue/PUB18597/srh-serv-eng-14-15-rep.pdf [accessed 5th June 2016].

Husserl, E. (1989). *Ideas Pertaining to a Pure Phenomenological Philosophy. Second book: studies in the phenomenology of constitution.* The Hague: Kluwer Academic Publishers.

Imamura, M., Tucker, J., Hannaford, P., Da Silva, M. O., Astin, M., Wyness, L., . . . Olsen, J. (2007). Factors associated with teenage pregnancy in the European Union countries: a systematic review. *The European Journal of Public Health, 17*(6), 630-636.

Ingham, R. (2005). Teenage pregnancy policy in England. *Sexuality Research and Social Policy, 2*(3), 56-67.

Ingham, R., Lee, E., Clements, S. J., & Stone, N. (2008). Reasons for second trimester abortions in England and Wales. *Reproductive Health Matters*, *16*(31), 18-29.

Ingham, R., & Van Zessen, G. (1997). From individual properties to interactional processes. In L. Van Campenhoudt, M. Cohen., G. Guizzardi., & D. Hausser (Eds.), *Sexual interactions and HIV risk: new conceptual perspectives in European research* (pp. 83-99). London: Taylor & Francis.

IPSO Mori. (2013) *Perceptions are not reality: the top 10 things we get wrong.* Available online from: https://www.ipsos-mori.com/Assets/Docs/Polls/ipsos-mori-rss-kings-perils-of-perception-topline.pdf [accessed 2nd May 2016].

Jaccard, J., Dodge, T., & Dittus, P. (2003). Do adolescents want to avoid pregnancy? Attitudes toward pregnancy as predictors of pregnancy. *Journal of Adolescent Health, 33*(2), 79-83.

Jacoby, M., Gorenflo, D., Black, E., Wunderlich, C., & Eyler, A. E. (1999). Rapid repeat pregnancy and experiences of interpersonal violence among low-income adolescents. *American Journal of Preventive Medicine, 16*(4), 318-321.

Jelen, T. G., & Wilcox, C. (2003). Causes and consequences of public attitudes toward abortion: a review and research agenda. *Political Research Quarterly, 56*(4), 489-500.

Johnson, W. T., & DeLamater, J. D. (1976). Response effects in sex surveys. *Public Opinion Quarterly*, *40*(2), 165-181.

Johnson, A. M., Mercer, C. H., Erens, B., Copas, A. J., McManus, S., Wellings, K., ... & Purdon, S. (2001). Sexual behaviour in Britain: partnerships, practices, and HIV risk behaviours. *The Lancet*, *358*(9296), 1835-1842.

Johnston-Briggs, B. D. (2008). Effect of partner relationship on motivation to use condoms among adolescent mothers. *Journal of the National Medical Association*, *100*(8), 929-935.

Jones, R. K., Darroch, J. E., & Henshaw, S. K. (2002). Contraceptive use among US women having abortions in 2000-2001. *Perspectives on Sexual and Reproductive Health*, 294-303.

Jones, M. E., & Mondy, L. W. (1994). Lessons for prevention and intervention in adolescent pregnancy: a five-year comparison of outcomes of two programs for school-aged pregnant adolescents. *Journal of Pediatric Health Care, 8*(4), 152-159.

Kalmuss, D. S., & Namerow, P. B. (1994). Subsequent childbearing among teenage mothers: the determinants of a closely spaced second birth. *Family Planning Perspectives*, 149-159.

Katz, K. S., Rodan, M., Milligan, R., Tan, S., Courtney, L., Gantz, M., . . . Kiely, M. (2011). Efficacy of a randomized cell phone-based counseling intervention in postponing subsequent pregnancy among teen mothers. *Maternal and Child Health Journal, 15*(1), 42-53.

Kelley, S. S., Borawski, E. A., Flocke, S. A., & Keen, K. J. (2003). The role of sequential and concurrent sexual relationships in the risk of sexually transmitted diseases among adolescents. *Journal of Adolescent Health, 32*(4), 296-305.

Kelly, D. M. (1996). Stigma stories four discourses about teen mothers, welfare, and poverty. *Youth & Society, 27*(4), 421-449.

Kelly, L. S., Sheeder, J., & Stevens-Simon, C. (2005). Why lightning strikes twice: postpartum resumption of sexual activity during adolescence. *Journal of Pediatric and Adolescent Gynecology*, *18*(5), 327-335.

Kelsey, M., Johnson, A., & Maynard, R. (2001). The potential of home visitor services to strengthen welfare-to-work programs for teenage parents on cash assistance, Mathematica policy research document No. PR01-67. Philadelphia: University of Pennsylvania (with Mathematica Policy Research).

Kershaw, T. S., Niccolai, L. M., Ethier, K. A., Lewis, J. B., & Ickovics, J. R. (2003). Perceived susceptibility to pregnancy and sexually transmitted disease among pregnant and nonpregnant adolescents. *Journal of Community Psychology, 31*(4), 419-434.

Key, J. D., Gebregziabher, M. G., Marsh, L. D., & O'Rourke, K. M. (2008). Effectiveness of an intensive, school-based intervention for teen mothers. *Journal of Adolescent Health*, *42*(4), 394-400.

Kirby, D., Lepore, G., & Ryan, J. (2005). *Sexual Risk and Protective factors. Factors Affecting Teen Sexual Behavior, Pregnancy, Childbearing and Sexually Transmitted Disease: Which Are Important? Which Can Change?*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

Klemetti, R., Gissler, M., Niinimäki, M., & Hemminki, E. (2012). Birth outcomes after induced abortion: a nationwide register-based study of first births in Finland. *Human Reproduction, 27*(11), 3315-3320.

Klerman, L. V. (2004). *Another chance: preventing additional births to teen mothers*. Washington, DC: The National Campaign to Prevent Teen Pregnancy. Available online from: http://thenationalcampaign.org/sites/default/files/resource-primary-download/anotherchance_final.pdf [accessed 2nd May 2016].

Koenig, M. A., & Zelnik, M. (1982). Repeat pregnancies among metropolitan-area teenagers: 1971-1979. *Family Planning Perspectives, 14*(6), 341-344.

Koffman, O. (2015). Fertile bodies, immature brains?: a genealogical critique of neuroscientific claims regarding the adolescent brain and of the global fight against adolescent motherhood. *Social Science & Medicine, 143*, 255-261.

Koniak-Griffin, D., Anderson, N. L., Brecht, M.-L., Verzemnieks, I., Lesser, J., & Kim, S. (2002). Public health nursing care for adolescent mothers: impact on infant health and selected maternal outcomes at 1 year postbirth. *Journal of Adolescent Health, 30*(1), 44-54.

Kuiper, H., Miller, S., Martinez, E., Loeb, L., & Darney, P. (1997). Urban adolescent females' views on the implant and contraceptive decision-making: a double paradox. *Family Planning Perspectives*, 167-172.

Kumar, A., Hessini, L., & Mitchell, E. M. (2009). Conceptualising abortion stigma. *Culture, Health & Sexuality, 11*(6), 625-639.

Langridge, M. E., & Ahern, K. (2003). A case report on using mixed methods in qualitative research. *Collegian, 10*(4), 32-36.

Lara-Torre, E., Edwards, C. P., Perlman, S., & Hertweck, S. P. (2004). Bone mineral density in adolescent females using depot medroxyprogesterone acetate. *Journal of Pediatric and Adolescent Gynecology, 17*(1), 17-21.

Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative Research in Psychology, 3*(2), 102-120.

Lawlor, D. A., & Shaw, M. (2002). Too much too young? Teenage pregnancy is not a public health problem. *International Journal of Epidemiology, 31*(3), 552-553.

Lawlor, D. A., & Shaw, M. (2004). Teenage pregnancy rates: high compared with where and when? *Journal of the Royal Society of Medicine, 97*(3), 121-123.

Lee, R. M. (1993). *Doing Research on Sensitive Topics*. London: Sage.

Lee, E. (2004). Young women, pregnancy and abortion: a descussion of 'law in practice' *International Journal of Law, Policy and the Family, 18*(3), 283-304.

Lee, E., Clements, S., Ingham, R., & Stone, N. (2004). *A Matter of Choice?: Explaining National Variations in Teenage Abortion and Motherhood.* York: Joseph Rowntree Foundation.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: advancing the methodology. *Implementation Science, 5*(1), 1.

Lewis, L. N., Doherty, D. A., Hickey, M., & Skinner, S. R. (2010a). Predictors of sexual intercourse and rapid-repeat pregnancy among teenage mothers: an Australian prospective longitudinal study. *Medical Journal of Australia, 193*(6), 338-342.

Lewis, L. N., Doherty, D. A., Hickey, M., & Skinner, S. R. (2010b). Implanon as a contraceptive choice for teenage mothers: a comparison of contraceptive choices, acceptability and repeat pregnancy. *Contraception*, *81*(5), 421-426.

Liamputtong, P. (2006). *Researching the Vulnerable: A Guide to Sensitive Research Methods*. London: Sage.

Lie, M. L., Robson, S. C., & May, C. R. (2008). Experiences of abortion: a narrative review of qualitative studies. *BMC Health Services Research, 8*(1), 1.

Lindberg, L. D., Sonenstein, F. L., Ku, L., & Martinez, G. (1997). Age differences between minors who give birth and their adult partners. *Family Planning Perspectives*, 61-66.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, 363-385.

Loewenstein, G., & Furstenberg, F. (1991). Is teenage sexual behavior rational? *Journal of Applied Social Psychology*, *21*(12), 957-986.

Lohr, M. J., Gillmore, M. R., Gilchrist, L. D., & Butler, S. S. (1992). Factors related to substance use by pregnant, school-age adolescents. *Journal of Adolescent Health, 13*(6), 475-482.

Lopez, L. M., Tolley, E. E., Grimes, D. A., & Chen-Mok, M. (2009). Theory-based strategies for improving contraceptive use: a systematic review. *Contraception*, *79*(6), 411-417.

Lowe, P. (2005). Contraception and heterosex: an intimate relationship. *Sexualities*, *8*(1), 75-92.

Lucas, S. (2013). *Unprotected nation: the financial and economic impacts of restricted contraceptive and sexual health services*. London: Development Economics. Available online from: http://www.fpa.org.uk/sites/default/files/unprotected-nation-sexual-health-full-report.pdf [accessed 2nd May 2016].

Luker, K. (1996). *Dubious conception: the politics of teenage pregnancy*. London: Harvard University Press.

Luker, K. (1999). A reminder that human behavior frequently refuses to conform to models created by researchers. *Family Planning Perspectives, 31*(5), 248.

Luttrell, W. (2011). Where inequality lives in the body: teenage pregnancy, public pedagogies and individual lives. *Sport, Education and Society, 16*(3), 295-308.

Luttrell, W. (2014). *Pregnant Bodies, Fertile Minds: Gender, Race, and the Schooling of Pregnant teens*. London: Routledge.

Macdowall, W., Gibson, L. J., Tanton, C., Mercer, C. H., Lewis, R., Clifton, S., . . . Sonnenberg, P. (2013). Lifetime prevalence, associated factors, and circumstances of non-volitional sex in women and men in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *The Lancet, 382*(9907), 1845-1855.

Madden, H., Eckley, L., Hughes, L., Lavin, R., & Timpson, H. (2014). Long acting reversible contraception, young women and social norms. Liverpool: Centre for Public Health, Liverpool John Moores University. Available online from: http://www.cph.org.uk/wp-content/uploads/2014/04/LARC-Young-Women-and-Social-Norms_final-report.pdf [accessed 5th June 2016].

Mallen, C., Peat, G., & Croft, P. (2006). Quality assessment of observational studies is not commonplace in systematic reviews. *Journal of Clinical Epidemiology, 59*(8), 765-769.

Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet*, *358*(9280), 483-488.

Manlove, J. (1997). Early motherhood in an intergenerational perspective: the experiences of a British cohort. *Journal of Marriage and the Family*, 263-279.

Manlove, J., Mariner, C., & Papillo, A. R. (2000). Subsequent fertility among teen mothers: longitudinal analyses of recent national data. *Journal of Marriage and Family, 62*(2), 430-448.

Manson, J. M., McFarland, B., & Weiss, S. (2001). Use of an automated database to evaluate markers for early detection of pregnancy. *American Journal of Epidemiology, 154*(2), 180-187.

Marsiglio, W. (1993). Adolescent males' orientation toward paternity and contraception. *Family Planning Perspectives*, 22-31.

Marston, C., & King, E. (2006). Factors that shape young people's sexual behaviour: a systematic review. *The Lancet, 368*(9547), 1581-1586.

Matsuhasi, Y., Shragg, G. P., Felice, M. E., & Hollingsworth, D. R. (1989). Is repeat pregnancy in adolescents a “planned” affair? *Journal of Adolescent Health Care, 10*(5), 409-412.

Maynard, R., & Rangarajan, A. (1994). Contraceptive use and repeat pregnancies among welfare-dependent teenage mothers. *Family Planning Perspectives*, 198-205.

Mayoh, J., & Onwuegbuzie, A. J. (2013). Toward a conceptualization of mixed methods phenomenological research. *Journal of Mixed Methods Research*.

McCall, S. J., Flett, G., Okpo, E., & Bhattacharya, S. (2015). Who has a repeat abortion? Identifying women at risk of repeated terminations of pregnancy: analysis of routinely collected health care data. *Journal of Family Planning and Reproductive Health Care*, 42:133-142.

McCulloch, A. (2001). Teenage childbearing in Great Britain and the spatial concentration of poverty households. *Journal of Epidemiology and Community Health, 55*(1), 16-23.

McDaid, L. A., Collier, J., & Platt, M. J. (2015). Previous pregnancies among young women having an abortion in England and Wales. *Journal of Adolescent Health, 57*(4), 387-392.

McDermott, E., & Graham, H. (2005). Resilient young mothering: social inequalities, late modernity and the 'problem'of 'teenage'motherhood. *Journal of Youth Studies, 8*(1), 59-79.

McGeeney, E. (2015). Young people, sexual pleasure and sexual health services: what happens when "good sex" is bad for your health? In K. Wright & J. McLeod (Eds.), *Rethinking Youth Wellbeing* (pp. 91-108). Singapore: Springer.

McLeod, A. (2001). Changing patterns of teenage pregnancy: population based study of small areas. *British Medical Journal, 323*(7306), 199-203.

Meade, C. S., & Ickovics, J. R. (2005). Systematic review of sexual risk among pregnant and mothering teens in the USA: pregnancy as an opportunity for integrated prevention of STD and repeat pregnancy. *Social Science & Medicine, 60*(4), 661-678.

Meade, C. S., Kershaw, T. S., & Ickovics, J. R. (2008). The intergenerational cycle of teenage motherhood: an ecological approach. *Health Psychology, 27*(4), 419.

MedFASH (Medical Foundation for AIDS & Sexual Health). (2008). *Progress and priorities - working together for high-quality sexual health. Review of the National Strategy for Sexual Health and HIV*. London: MedFASH. Available online from: http://www.medfash.org.uk/uploads/files/p17abl1iai1e961d438j2pjl1rp7p.pdf [accessed 2nd May 2016].

Mercer, C. H., Tanton, C., Prah, P., Erens, B., Sonnenberg, P., Clifton, S., . . . Johnson, A. M. (2013). Changes in sexual attitudes and lifestyles in Britain through the life course and over time: findings from the National Surveys of Sexual Attitudes and Lifestyles (Natsal). *The Lancet, 382*(9907), 1781-1794.

Mertens, D. M. (2003). Mixed methods and the politics of human research: the transformative-emancipatory perspective. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 135-164). Thousand Oaks, CA: Sage.

Meyrick, J. (2001). Repeat use of contraceptive crisis services among adolescent women. *Journal of Family Planning and Reproductive Health Care*, *27*(1), 33-36.

Miller, K. S., Clark, L. F., & Moore, J. S. (1997). Sexual initiation with older male partners and subsequent HIV risk behavior among female adolescents. *Family Planning Perspectives*, 212-214.

Miller, E., Decker, M. R., Reed, E., Raj, A., Hathaway, J. E., & Silverman, J. G. (2007). Male partner pregnancy-promoting behaviors and adolescent partner violence: findings from a qualitative study with adolescent females. *Ambulatory Pediatrics*, *7*(5), 360-366.

Miller, J., & Glassner, B. (1997). The 'inside'and the 'outside': Finding realities in interviews. *Qualitative Research*, 99-112.

Miller, B. C., Monson, B. H., & Norton, M. C. (1995). The effects of forced sexual intercourse on white female adolescents. *Child Abuse & Neglect*, *19*(10), 1289-1301.

Mims, B., & Biordi, D. (2001). Communication patterns in African-American families with adolescent mothers of single or repeat pregnancies. *Journal of the National Black Nurses Assoication, 12*(1), 34-41.

Mirowsky, J., & Ross, C. E. (2003). *Social Causes of Psychological Distress* (2nd Edn.). New York: Transaction Publishers.

Moore, S. M., & Rosenthal, D. A. (2007). *Sexuality in Adolescence: Current Trends* (2nd Edn.). London: Routledge.

Morgan, D. L. (2007). Paradigms lost and pragmatism regained methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*(1), 48-76.

Morris, D. H., Jones, M. E., Schoemaker, M. J., Ashworth, A., & Swerdlow, A. J. (2011). Secular trends in age at menarche in women in the UK born 1908–93: results from the Breakthrough Generations Study. *Paediatric and Perinatal Epidemiology, 25*(4), 394-400.

Mott, F. L. (1986). The pace of repeated childbearing among young American mothers. *Family Planning Perspectives*, 5-12.

Nelson, P. (1990). Repeat pregnancy among adolescent mothers: a review of the literature. *Journal of National Black Nurses' Association: JNBNA, 4*(1), 28-34.

Nerlander, L. M., Callaghan, W. M., Smith, R. A., & Barfield, W. D. (2015). Short interpregnancy interval associated with preterm birth in US adolescents. *Maternal and Child Health Journal, 19*(4), 850-858.

Nettle, D., Dickins, T. E., Coall, D. A., & de Mornay Davies, P. (2013). Patterns of physical and psychological development in future teenage mothers. *Evolution, Medicine, and Public Health, 2013*(1), 187-196.

Neugarten, B. L., Moore, J. W., & Lowe, J. C. (1965). Age norms, age constraints, and adult socialization. *American Journal of Sociology, 70*(6), 710-717.

NHS National Patient Safety Agency. (2013). *NRES shared singled issue ethical debate - issue paper one - time to consent*. Available online from: http://www.hra.nhs.uk/documents/2013/09/issues-and-arguments-time-to-consent.pdf [accessed 2nd May 2016].

NICE (National Institute for Health and Care Excellence). (2005). *NICE Guidelines (CG30) Long-acting reversible contraception: the effective and appropriate use of long-acting reversible contraception.* London: RCOG Press. Available online from: http://www.nice.org.uk/guidance/cg30/evidence/cg30-longacting-reversible-contraception-full-guideline3. [accessed 30th June 2016].

NICE (National Institute for Health and Care Excellence). (2007). *PH3 Sexually transmitted infections and under-18 conceptions: prevention*. London: NICE. Available online from: https://www.nice.org.uk/Guidance/PH3 [accessed 2nd May 2016].

NICE (National Institute for Health and Care Excellence). (2014a). NICE public health guidance (PH51). Contraceptive services with a focus on young people up to the age of 25. Available online from: https://www.nice.org.uk/guidance/ph51 [accessed 2nd May 2016].

NICE (National Institute for Health and Care Excellence). (2014b). *Implementation uptake report: Long-acting reversible contraception. Clinical guideline 30.* London: NICE. Available online from: https://www.nice.org.uk/guidance/cg30?unlid=53408280020172952327 [accessed 2nd May 2016].

Noll, J. G., Shenk, C. E., & Putnam, K. T. (2009). Childhood sexual abuse and adolescent pregnancy: A meta-analytic update. *Journal of Pediatric Psychology, 34*(4), 366-378.

O'Dell, C. M., Forke, C. M., Polaneczky, M. M., Sondheimer, S. J., & Slap, G. B. (1998). Depot medroxyprogesterone acetate or oral contraception in postpartum adolescents. *Obstetrics & Gynecology, 91*(4), 609-614.

O'Doherty, J. P. (2004). Reward representations and reward-related learning in the human brain: insights from neuroimaging. *Current Opinion in Neurobiology*, *14*(6), 769-776.

Okpo, E., Allerton, L., & Brechin, S. (2014). 'But you can't reverse a hysterectomy!' Perceptions of long acting reversible contraception (LARC) among young women aged 16–24 years: a qualitative study. *Public Health*, *128*(10), 934-939.

Olds, D. L. (2006). The nurse–family partnership: an evidence-based preventive intervention. *Infant Mental Health Journal, 27*(1), 5-25.

ONS (Office of National Statistics). (1999). *Conceptions in England and Wales, 1998*. London: ONS.

ONS (Office of National Statistics). (2001). *Conceptions in England and Wales, 1999*. London: ONS.

ONS (Office of National Statistics). (2009a). *Contraceptive and sexual health report 2008/2009.* London: ONS. Available online from: http://webarchive.nationalarchives.gov.uk/20160105160709/http://ons.gov.uk/ons/rel/lifestyles/contraception-and-sexual-health/2008-09/2008-09.pdf [accessed 2nd May 2016].

ONS (Office of National Statistics). (2009). *Opinions survey report No. 41. contraceptive and sexual health report 2008/09*. London: ONS. Available online from: https://www.nursingtimes.net/Journals/1/Files/2009/10/21/Contraception%20and%20sexual%20health.pdf [accessed 2nd May 2016].

ONS (Office of National Statistics). (2012a). *How changes to the Population Statistics Act will affect birth statistics*. London: ONS. Available online from: https://www.one.gov.uk/ons/guide-method/user-guidance/health-and-life-events/ how-changes-to-population-statistics-act-will-affect-birth-statistics.pdf [accessed 2nd May 2016].

ONS (Office of National Statistics). (2012b). Conception Statistics, England and Wales, 2010, reference tables. London: ONS. Available online from: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/vsob1/conception-statistics--england-and-wales/2010/rft-conception-statistics-2010.xls [accessed 27 April 2016].

ONS (Office of National Statistics). (2012c). *Census 2011 tables: usual resident populuation.* Available online from: *http*://www.nomisweb.co.uk/census/2011/ks101ew [accessed 24 April 2017].

ONS (Office of National Statistics). (2013). *Conceptions in England and Wales: 2011*. London: ONS. Available online from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/conceptionandfertilityrates/bulletins/conceptionstatistics/2013-02-26 [accessed 2nd May 2016].

ONS (Office of National Statistics). (2014a). *Characteristics of mother 2, England and Wales*, 2013. London: ONS. Available online from: http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/characteristicsofmother2englandandwales [accessed 2nd May 2016].

ONS (Office of National Statistics). (2014b). *International comparisons of teenage births*. London: ONS. Available online from: http://web.ons.gov.uk/ons/rel/vsob1/births-by-area-of-usual-residence-of-mother--england-and-wales/2012/sty-international-comparisons-of-teenage-pregnancy.html [accessed 2nd May 2016].

ONS (Office of National Statistics). (2014c). *Teenage conception rates highest in the most deprived areas*. London: ONS: Available online from: http://webarchive.nationalarchives.gov.uk/20160105160709/http://ons.gov.uk/ons/rel/regional-trends/area-basedanalysis/conceptions-deprivation-analysis-toolkit/conceptions-deprivation-measures--2009-11.html [accessed 2nd May 2016].

ONS (Office of National Statistics). (2014d). 2011 *Census: internal and international migration for the United Kingdom in the year prior to the 2011 Census*. London: ONS. Available online from: https://www.ons.gov.uk/peoplepopulationandcommunity/population andmigration/internationalmigration/articles/internalandinternationalmigrationfortheunitedkingdomintheyearpriortothe2011census/2014-11-25 [accessed 2nd May 2016].

ONS (Office of National Statistics). (2015). *Births by parents' characteristics, 2014*. London: ONS. Available online from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/birthsbyparentscharacteristicsinenglandandwales/2014/pdf [accessed 2nd May 2016].

ONS (Office of National Statistics). (2016a). *Live births women aged 'Under 18' and 'Under 20', (per 1,000 women aged 15 to 17 and 15 to 19) in EU28 countries, 2004, 2013 and 2014* (data table). London: ONS. Available online from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/adhocs/005466livebirthswomenagedunder18andunder20per1000womenaged15to17and15to19ineu28countries20042013and2014 [accessed 2nd May 2016].

ONS (Office of National Statistics). (2016b). Conceptions in England and Wales: 2014. London. ONS. Available online from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/conceptionandfertilityrates/bulletins/conceptionstatistics/2014 [accessed 2nd May 2016].

Pace, R., Pluye, P., Bartlett, G., Macaulay, A. C., Salsberg, J., Jagosh, J., & Seller, R. (2012). Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed studies review. *International Journal of Nursing Studies, 49*(1), 47-53.

Palmer, M. J., Clarke, L., Ploubidis, G. B., Mercer, C. H., Gibson, L. J., Johnson, A. M., . . . Wellings, K. (2016). Is "Sexual Competence" at First Heterosexual Intercourse Associated With Subsequent Sexual Health Status? *The Journal of Sex Research*, 1-14.

Patchen, L., Caruso, D., & Lanzi, R. (2009). Poor maternal mental health and trauma as risk factors for a short interpregnancy interval among adolescent mothers. *Journal of Psychiatric and Mental Health Nursing, 16*(4), 401-403.

Paton, D. (2002). The economics of family planning and underage conceptions. *Journal of Health Economics, 21*(2), 207-225.

Paukku, M., Quan, J., Darney, P., & Raine, T. (2003). Adolescents' contraceptive use and pregnancy history: is there a pattern?. *Obstetrics & Gynecology*, *101*(3), 534-538.

Paus, T. (2005). Mapping brain maturation and cognitive development during adolescence. *Trends in cognitive sciences*, *9*(2), 60-68.

Peabody, E., McKenry, P., & Cordero, L. (1981). Subsequent pregnancy among adolescent mothers. *Adolescence, 16*(63), 563.

Peipert, J. F., Zhao, Q., Allsworth, J. E., Petrosky, E., Madden, T., Eisenberg, D., & Secura, G. (2011). Continuation and satisfaction of reversible contraception. *Obstetrics and Gynecology*, *117*(5), 1105.

Perrow, F. (2004). Teenagers and double buggies: preventing a second pregnancy. *RCM Midwives: The Official Journal of the Royal College of Midwives, 7*(12), 508.

Petersen, I., McCrea, R. L., Sammon, C. J., Osborn, D. P., Evans, S. J., Cowen, P. J., ... & Nazareth, I. (2016). Risks and benefits of psychotropic medication in pregnancy: cohort studies based on UK electronic primary care health records. *Health Technology Assessment, 20*(23).

Pfitzner, M. A., Hoff, C., & McElligott, K. (2003). Predictors of repeat pregnancy in a program for pregnant teens. *Journal of Pediatric and Adolescent Gynecology, 16*(2), 77-81.

PHE (Public Health England). (2015). *Under 18 conception rate in England continues to fall*. London: PHE. Available online from: https://www.gov.uk/government/news/under-18-conception-rate-continues-to-fall-in-england [accessed 2nd May 2016].

PHE (Public Health England). (2016). *Sexual health, reproductive health and HIV in England: A guide to local and national data* (Revised December 2015). London. PHE. Avaiable online from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/492823/PHE_SH_data_guide_December_2015_FINAL.pdf [accessed 2nd May 2016].

Pitts, S. A., Feldman, H. A., Dorale, A., & Gordon, C. M. (2012). Bone mineral density, fracture, and vitamin D in adolescents and young women using depot medroxyprogesterone acetate. *Journal of Pediatric and Adolescent Gynecology, 25*(1), 23-26.

Plummer, K. (2003). *Telling Sexual Stories: Power, Change and Social Worlds*. London: Routledge.

Pluye, P., Robert, E., Cargo, M., Bartlett, G., O'Cathain, A., Griffiths, F., . . . Rousseau, M. (2011). Proposal: a mixed methods appraisal tool for systematic mixed studies reviews. *Montréal: McGill University*, 1-8.

Pohjoranta, E., Mentula, M., Gissler, M., Suhonen, S., & Heikinheimo, O. (2015). Provision of intrauterine contraception in association with first trimester induced abortion reduces the need of repeat abortion: first-year results of a randomized controlled trial. *Human Reproduction*, 30 (11): 2539-2546.

Polaneczky, M., Slap, G., Forke, C., Rappaport, A., & Sondheimer, S. (1994). The use of levonorgestrel implants (Norplant) for contraception in adolescent mothers. *New England Journal of Medicine, 331*(18), 1201-1206.

Polis, C. B., & Zabin, L. S. (2012). Missed conceptions or misconceptions: perceived infertility among unmarried young adults in the United States. *Perspectives on Sexual and Reproductive Health, 44*(1), 30-38.

Polit, D. F., & Kahn, J. R. (1986). Early subsequent pregnancy among economically disadvantaged teenage mothers. *American Journal of Public Health, 76*(2), 167-171.

Potter, L., Oakley, D., de Leon-Wong, E., & Cañamar, R. (1996). Measuring compliance among oral contraceptive users. *Family Planning Perspectives*, 154-158.

Power, J., French, R., & Cowan, F. (2007). Subdermal implantable contraceptives versus other forms of reversible contraceptives or other implants as effective methods of preventing pregnancy. *Cochrane Database Systematic Reviews*, *3*(3), 1-31.

Pratt, R., Stephenson, J., & Mann, S. (2014). What influences contraceptive behaviour in women who experience unintended pregnancy? A systematic review of qualitative research. *Journal of Obstetrics and Gynaecology*, *34*(8), 693-699.

Purcell, C., Hilton, S., & McDaid, L. (2014). The stigmatisation of abortion: a qualitative analysis of print media in Great Britain in 2010. *Culture, Health & Sexuality, 16*(9), 1141-1155.

Quinn, D. M., & Chaudoir, S. R. (2009). Living with a concealable stigmatized identity: the impact of anticipated stigma, centrality, salience, and cultural stigma on psychological distress and health. *Journal of Personality and Social Psychology, 97*(4), 634.

Quint, J. C., Bos, J. M., & Polit, D. F. (1997). *New Chance. Final Report on a Comprehensive Program for Young Mothers in Poverty and their Children*. New York: Manpower Demonstration Research Corp.

Raine, T. R., Harper, C. C., Rocca, C. H., Fischer, R., Padian, N., Klausner, J. D., & Darney, P. D. (2005). Direct access to emergency contraception through pharmacies and effect on unintended pregnancy and STIs: a randomized controlled trial. *Journal of the American Medical Association*, *293*(1), 54-62.

RamaRao, S., Lacuesta, M., Costello, M., Pangolibay, B., & Jones, H. (2003). The link between quality of care and contraceptive use. *International Family Planning Perspectives*, 76-83.

Raneri, L. G., & Wiemann, C. M. (2007). Social ecological predictors of repeat adolescent pregnancy. *Perspectives on Sexual and Reproductive Health, 39*(1), 39-47.

RCOG (Royal College of Obstetricians and Gynaecologists). (2004). *The Care of Women Requesting Induced Abortion: Evidence-Based Clinical Guideline Number 7*. London: RCOG.

RCOG (Royal College of Obstetricians and Gynaecologists). (2011). *The Care of Women Requesting Induced Abortion: Evidence-Based Clinical Guideline Number 7*. London: RCOG.

Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making implications for theory, practice, and public policy. *Psychological Science in the Public Interest, 7*(1), 1-44.

Richio, L. J., Phipps, M. G., & Raker, C. A. (2010). Repeat teen birth: does delivery mode make a difference?. *American Journal of Obstetrics and Gynecology*, *203*(5), 453-e1.

Rigsby, D., Macones, G., & Driscoll, D. (1998). Risk factors for rapid repeat pregnancy among adolescent mothers: a review of the literature. *Journal of Pediatric and Adolescent Gynecology, 11*(3), 115-126.

Roberts, R., O'Connor, T., Dunn, J., Golding, J., & Team, A. S. (2004). The effects of child sexual abuse in later family life; mental health, parenting and adjustment of offspring. *Child Abuse & Neglect, 28*(5), 525-545.

Robinson, C., Nardone, A., Mercer, C., & Johnson, A. M. (2011). Sexual health. In R. Craig., & J. Mindell (Eds.), *Health Survey for England 2010.* London: The Information Centre. Available online from: http://content.digital.nhs.uk/catalogue/PUB03023/heal-surv-eng-2010-resp-heal-ch6-sex.pdf [accessed 2nd May 2016].

Robling, M., Bekkers, M.-J., Bell, K., Butler, C. C., Cannings-John, R., Channon, S., . . . Kemp, A. (2016). Effectiveness of a nurse-led intensive home-visitation programme for first-time teenage mothers (Building Blocks): a pragmatic randomised controlled trial. *The Lancet, 387*(10014), 146-155.

Rogstad, K., Ahmed-Jushuf, I., & Robinson, A. (2002). Standards for comprehensive sexual health services for young people under 25 years. *International Journal of STD & AIDS, 13*(6), 420-424.

Rosato, M. (1999). Teenage fertility in England and Wales: trends in socioeconomic circumstances between the 1971 and 1981 Censuses. *Longitudinal Study (LS) Working Paper, 78*. London: London School of Hygiein and Tropical Medicine. Available online from: https://www.ucl.ac.uk/celsius/research-outputs/lswrk78.pdf [accessed 2nd May 2016].

Rose, S. B., & Lawton, B. A. (2012). Impact of long-acting reversible contraception on return for repeat abortion. *American Journal of Obstetrics and Gynecology*, *206*(1), 37-e1.

Rosenberg, M. J., Waugh, M. S., & Meehan, T. E. (1995). Use and misuse of oral contraceptives: risk indicators for poor pill taking and discontinuation. *Contraception, 51*(5), 283-288.

Rosenberg, M. J., & Waugh, M. S. (1998). Oral contraceptive discontinuation: a prospective evaluation of frequency and reasons. *American Journal of Obstetrics and Gynecology*, *179*(3), 577-582.

Rosengard, C., Phipps, M. G., Adler, N. E., & Ellen, J. M. (2005). Psychosocial correlates of adolescent males' pregnancy intention. *Pediatrics*, *116*(3), e414-e419.

Rosengard, C., Pollock, L., Weitzen, S., Meers, A., & Phipps, M. G. (2006). Concepts of the advantages and disadvantages of teenage childbearing among pregnant adolescents: a qualitative analysis. *Pediatrics, 118*(2), 503-510.

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, *2*(4), 328-335.

Rowlands, S. (2010). Social predictors of repeat adolescent pregnancy and focussed strategies. *Best Practice & Research Clinical Obstetrics & Gynaecology, 24*(5), 605-616.

Rowlands, S. (2014). Longer-term outcomes in women requesting abortion. In S. Rowlands (Ed.), *Abortion Care* (pp.163-174). Cambridge: Cambridge University Press.

Rowlands, S., Cleland, K., & Trussell, J. (2014). More than one abortion. In S. Rowlands (Ed), *Abortion Care* (pp.193-200). Cambridge: Cambridge University Press.

Rowlands, S., Devalia, H., Lawrenson, R., Logie, J., & Ineichen, B. (2000). Repeated use of hormonal emergency contraception by younger women in the UK. *British Journal of Family Planning*, *26*(3), 138-142.

Rubin, V., & East, P. L. (1999). Adolescents' pregnancy intentions: relations to life situations and caretaking behaviors prenatally and 2 years postpartum. *Journal of Adolescent Health, 24*(5), 313-320.

Sable, M. R. (1999). Pregnancy intentions may not be a useful measure for research on maternal and child health outcomes. *Family Planning Perspectives, 31*(5), 249.

Salihu, H. M., August, E. M., Jeffers, D. F., Mbah, A. K., Alio, A. P., & Berry, E. (2011). Effectiveness of a federal healthy start program in reducing primary and repeat teen pregnancies: our experience over the decade. *Journal of Pediatric and Adolescent Gynecology*, *24*(3), 153-160.

Sanders, C. (2003). Application of Colaizzi's method: interpretation of an auditable decision trail by a novice researcher. *Contemporary Nurse, 14*(3), 292-302.

Sanderson, S., Tatt, I. D., & Higgins, J. P. (2007). Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. *International Journal of Epidemiology, 36*(3), 666-676.

Sangalang, B. B., Barth, R. P., & Painter, J. S. (2006). First-birth outcomes and timing of second births: a statewide case management program for adolescent mothers. *Health & Social Work, 31*(1), 54-63.

Schreiber, C. A., Ratcliffe, S. J., & Barnhart, K. T. (2010). A randomized controlled trial of the effect of advanced supply of emergency contraception in postpartum teens: a feasibility study. *Contraception, 81*(5), 435-440.

Schunmann, C., & Glasier, A. (2006). Specialist contraceptive counselling and provision after termination of pregnancy improves uptake of long-acting methods but does not prevent repeat abortion: a randomized trial. *Human Reproduction, 21*(9), 2296-2303.

Seamark, C. J., & Gray, D. (1998). Teenagers and risk-taking: pregnancy and smoking. *British Journal of General Practice, 48*(427), 985-986.

Seamark, C. J., & Lings, P. (2004). Positive experiences of teenage motherhood: a qualitative study. *British Journal of General Practice, 54*(508), 813-818.

Seamark, C. J., & Gray, D. P. (1997). Like mother, like daughter: a general practice study of maternal influences on teenage pregnancy. *British Journal of General Practice, 47*(416), 175-176.

Secura, G. M., Allsworth, J. E., Madden, T., Mullersman, J. L., & Peipert, J. F. (2010). The Contraceptive CHOICE Project: reducing barriers to long-acting reversible contraception. *American Journal of Obstetrics and Gynecology*, *203*(2), 115-e1-115.e7.

Secura, G. M., Madden, T., McNicholas, C., Mullersman, J., Buckel, C. M., Zhao, Q., & Peipert, J. F. (2014). Provision of no-cost, long-acting contraception and teenage pregnancy. *New England Journal of Medicine, 371*(14), 1316-1323.

Sedgh, G., Finer, L. B., Bankole, A., Eilers, M. A., & Singh, S. (2015). Adolescent pregnancy, birth, and abortion rates across countries: levels and recent trends. *Journal of Adolescent Health, 56*(2), 223-230.

SEU (Social Exclusion Unit). (1999). *Teenage Pregnancy*. London: HMSO.

Shaw, A. (2010). Media representations of adolescent pregnancy: the problem with choice. *Atlantis: Critical Studies in Gender, Culture & Social Justice, 34*(2), 55-65.

Shaw, R. L., & Giles, D. C. (2009). Motherhood on ice? A media framing analysis of older mothers in the UK news. *Psychology and Health, 24*(2), 221-236.

Sheeder, J., Teal, S. B., Crane, L. A., & Stevens-Simon, C. (2010). Adolescent childbearing ambivalence: is it the sum of its parts?. *Journal of Pediatric and Adolescent Gynecology*, *23*(2), 86-92.

Sibeon, R. (2004). *Rethinking Social Theory*. London: Sage.

Sims, K., & Luster, T. (2002). Factors related to early subsequent pregnancies and second births among adolescent mothers in a family support program. *Journal of Family Issues, 23*(8).

Singh, S., Darroch, J. E., & Frost, J. J. (2001). Socioeconomic disadvantage and adolescent women's sexual and reproductive behavior: the case of five developed countries. *Family Planning Perspectives*, 251-289.

Siva, N. (2013). Studying sexual health in the UK. *The Lancet, 382*(9907), 1770-1772.

Smith, J. (2011) Evaluating the contribution of interpretative phenomenological analysis. *Health Psychology Review, 5, 9-27.*

Smith, J., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method, Research*. London: Sage.

Smith, J., & Osborn, M. (2008). Interpretive phenomenological analysis (pp. 51-80). In, J. Smith (Ed.) *Qualitative Psychology: A Practical Guide to Research Methods.* London: Sage.

Smith, J. L., Skinner, S. R., & Fenwick, J. (2013). Preconception reflections, postconception intentions: the before and after of birth control in Australian adolescent females. *Sexual health, 10*(4), 332-338.

Snyder, L. B., & Rouse, R. A. (1992). Targeting the audience for AIDS messages by actual and perceived risk. *AIDS Education and Prevention*. 4(2):143-59.

Sonnenberg, P., Clifton, S., Beddows, S., Field, N., Soldan, K., Tanton, C., . . . Copas, A. J. (2013). Prevalence, risk factors, and uptake of interventions for sexually transmitted infections in Britain: findings from the National Surveys of Sexual Attitudes and Lifestyles (Natsal). *The Lancet, 382*(9907), 1795-1806.

Spies, E. L., Askelson, N. M., Gelman, E., & Losch, M. (2010). Young women's knowledge, attitudes, and behaviors related to long-acting reversible contraceptives. *Women's Health Issues*, *20*(6), 394-399.

SSfH (Secretary of State for Health). (1992). *The Health of Our Nation: A Strategy for Health in England*. London: HMSO.

Stanek, A. M., Bednarek, P. H., Nichols, M. D., Jensen, J. T., & Edelman, A. B. (2009). Barriers associated with the failure to return for intrauterine device insertion following first-trimester abortion. *Contraception*, *79*(3), 216-220.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in cognitive sciences*, *9*(2), 69-74.

Steinberg, L. (2007). Risk taking in adolescence new perspectives from brain and behavioral science. *Current Directions in Psychological Science, 16*(2), 55-59.

Steinberg, L. (2014). *Age of opportunity: Lessons from the new science of adolescence*. Boston, MA: Houghton Mifflin Harcourt.

Stevens-Simon, C., Dolgan, J. I., Kelly, L., & Singer, D. (1997). The effect of monetary incentives and peer support groups on repeat adolescent pregnancies a randomized trial of the dollar-a-day Program. *JAMA, 277*(12), 977-982.

Stevens-Simon, C., Kelly, L., & Kulick, R. (2001). A village would be nice but…: It takes a long-acting contraceptive to prevent repeat adolescent pregnancies. *American Journal of Preventive Medicine, 21*(1), 60-65.

Stevens-Simon, C., Kelly, L., & Singer, D. (1996a). Absence of negative attitudes toward childbearing among pregnant teenagers: a risk factor for a rapid repeat pregnancy? *Archives of Pediatrics & Adolescent Medicine, 150*(10), 1037-1043.

Stevens-Simon, C., Kelly, L., & Singer, D. (1999). Preventing repeat adolescent pregnancies with early adoption of the contraceptive implant. *Family Planning Perspectives*, 88-93.

Stevens-Simon, C., Kelly, L., Singer, D., & Cox, A. (1996b). Why pregnant adolescents say they did not use contraceptives prior to conception. *Journal of Adolescent Health, 19*(1), 48-53.

Stevens-Simon, C., Kelly, L., Singer, D., & Nelligan, D. (1998). Reasons for first teen pregnancies predict the rate of subsequent teen conceptions. *Pediatrics, 101*(1), e8-e8.

Stevens-Simon, C., Parsons, J., & Montgomery, C. (1986). What is the relationship between postpartum withdrawal from school and repeat pregnancy among adolescent mothers? *Journal of Adolescent Health Care*, *7*(3), 191-194.

Stewart, H., McCall, S. J., McPherson, C., Towers, L. C., Lloyd, B., Fletcher, J., & Bhattacharya, S. (2016). Effectiveness of peri-abortion counselling in preventing subsequent unplanned pregnancy: a systematic review of randomised controlled trials. *Journal of Family Planning and Reproductive Health Care, 42*(1), 59-67.

Stone, N., & Ingham, R. (2011). Who presents more than once? Repeat abortion among women in Britain. *Journal of Family Planning and Reproductive Health Care, 37*(4), 209-215.

Tabberer, S. (2000). Teenage motherhood, decision making and the transition to adulthood. *Youth and Policy*, 41-54.

Tashakkori, A., & Teddlie, C. (Eds.). (2010) *Handbook of Mixed Methods in Social and Behavioral Research.* Thousand Oaks, CA: Sage.

Tanton, C., Jones, K. G., Macdowall, W., Clifton, S., Mitchell, K. R., Datta, J., . . . Stevens, A. (2015). Patterns and trends in sources of information about sex among young people in Britain: evidence from three National Surveys of Sexual Attitudes and Lifestyles. *BMJ Open, 5*(3), e007834.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. London: Sage.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling a typology with examples. *Journal of Mixed Methods Research, 1*(1), 77-100.

Templeman, C. L., Cook, V., Goldsmith, L. J., Powell, J., & Hertweck, S. P. (2000). Postpartum contraceptive use among adolescent mothers. *Obstetrics & Gynecology, 95*(5), 770-776.

The Scottish Government. (2016) *Pregnancy and parenthood in young people strategy 2016-2026*. Edinburgh: The Scottish Government. Available online from: http://www.gov.scot/Resource/0049/00495068.pdf [accessed 10th Nov 2016]

Thom, B., Sales, R., & Pearce, J. J. (2007). *Growing Up With Risk*. Bristol: Policy Press.

Thurman, A. R., Hammond, N., Brown, H. E., & Roddy, M. E. (2007). Preventing repeat teen pregnancy: postpartum depot medroxyprogesterone acetate, oral contraceptive pills, or the patch? *Journal of Pediatric and Adolescent Gynecology, 20*(2), 61-65.

Tietze, C. (1974). Theproblem'of repeat abortions. *Family Planning Perspectives*, 148-150.

Tocce, K. M., Sheeder, J. L., & Teal, S. B. (2012). Rapid repeat pregnancy in adolescents: do immediate postpartum contraceptive implants make a difference? *American journal of obstetrics and gynecology, 206*(6), 481. e481-481. e487.

Toledo-Dreves, V., Zabin, L. S., & Emerson, M. R. (1995). Durations of adolescent sexual relationships before and after conception. *Journal of Adolescent Health*, *17*(3), 163-172.

Tomlinson, K. (2008). *Repeat pregnancies in teenage mothers* (ethesis). Hull: University of Hull. Available online from: http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.494848 [accessed May 2nd 2016].

TPIAG (Teenage Pregnancy Independent Advisory Group). (undated*). Teenage pregnancy: you can make a real difference to teenage pregnancy*. London: TPIAG. Available online from: http://www.fpa.org.uk/sites/default/files/teenage-pregnancy-briefing.pdf [accessed 2nd May 2016].

Trussell, J. (2011). Contraceptive failure in the United States. *Contraception, 83*(5), 397-404.

Vasilenko, S. A., Kreager, D. A., & Lefkowitz, E. S. (2015). Gender, contraceptive attitudes, and condom use in adolescent romantic relationships: a dyadic approach. *Journal of Research on Adolescence*, *25*(1), 51-62.

van der Sijpt, E. (2014). Complexities and contingencies conceptualised: towards a model of reproductive navigation. *Sociology of Health & Illness*, *36*(2), 278-290.

Van Horne, B. S., Wiemann, C. M., Berenson, A. B., Horwitz, I. B., & Volk, R. J. (2009). Multilevel predictors of inconsistent condom use among adolescent mothers. *American Journal of Public Health*, *99*(S2), S417-S424.

Vikat, A., Rimpelä, A., Kosunen, E., & Rimpelä, M. (2002). Sociodemographic differences in the occurrence of teenage pregnancies in Finland in 1987–1998: a follow-up study. *Journal of Epidemiology and Community Health, 56*(9), 659-668.

Walsh, J. (1997). Contraceptive choices: supporting effective use of methods. *Journal of Adolescent Health*, 19(2), 118–123.

Waggoner, M. R., Lanzi, R. G., & Klerman, L. V. (2012). Pregnancy intentions, long-acting contraceptive use, and rapid subsequent pregnancies among adolescent and adult First-Time mothers. *Journal of Child and Adolescent Psychiatric Nursing, 25*(2), 96-104.

Walker, S. (2012). Mechanistic and "natural" body metaphors and their effects on attitudes to hormonal contraception. *Women & Health*, *52*(8), 788-803.

Wallis, C. (2004) *What Makes Teens Tick?*. Time.163:57–65.

Weber, M. (1978). *Economy and Society.* 2 vols. Translated and edited by G. Roth & C. Wittich. Berkeley: University of California Press.

Weitz, T. A., & Kimport, K. (2012). A need to expand our thinking about "repeat" abortions. *Contraception, 85*(4), 408-412.

Wellings, K., Branigan, P., & Mitchell, K. (2000). Discomfort, discord and discontinuity as data: using focus groups to research sensitive topics. *Culture, Health & Sexuality, 2*(3), 255-267.

Wellings, K., Brima, N., Sadler, K., Copas, A. J., McDaid, L., Mercer, C. H., ... & Glasier, A. (2015). Stopping and switching contraceptive methods: findings from Contessa, a prospective longitudinal study of women of reproductive age in England. *Contraception*, *91*(1), 57-66.

Wellings, K., Collumbien, M., Slaymaker, E., Singh, S., Hodges, Z., Patel, D., & Bajos, N. (2006). Sexual behaviour in context: a global perspective. *The Lancet, 368*(9548), 1706-1728.

Wellings, K., & Johnson, A. M. (2013). Framing sexual health research: adopting a broader perspective. *The Lancet, 382*(9907), 1759-1762.

Wellings, K., & Kane, R. (1999). Trends in teenage pregnancy in England and Wales: how can we explain them? *Journal of the Royal Society of Medicine, 92*(6), 277.

Wellings, K., Jones, K., Mercer, C., Tanton, C., Clifton, S., Copas, A., . . . Gibson, L. (2013). Prevalence, associated factors and the context of unplanned pregnancy: findings from the third British National Survey of Sexual Attitudes and Lifestyles (Natsal). *The Lancet*, 382(9907), 1807–1816.

Wellings, K., Wadsworth, J., Johnson, A., & Field, J. (1996). *Teenage Sexuality, Fertility and Life Chances. A Report Prepared for the Department of Health Using Data from the National Survey of Sexual Attitudes and Lifestyles*. London: DH.

Wellings, K., Nanchahal, K., Macdowall, W., McManus, S., Erens, B., Mercer, C. H., . . . Fenton, K. A. (2001). Sexual behaviour in Britain: early heterosexual experience. *The Lancet, 358*(9296), 1843-1850.

Wellings, K., Wadsworth, J., Johnson, A., Field, J., & Macdowall, W. (1999). Teenage fertility and life chances. *Reviews of Reproduction, 4*(3), 184-190.

Wellings, K., Wilkinson, P., & Kane, R. (2005). *Evaluation of the National Teenage Pregnancy Strategy: Final Synthesis Report*. London: DH.

Wellings, K., Zhihong, Z., Krentel, A., Barrett, G., & Glasier, A. (2007). Attitudes towards long-acting reversible methods of contraception in general practice in the UK. *Contraception, 76*(3), 208-214.

Welsh Assembly Government. (2010). *Sexual health and wellbeing action plan For Wales, 2010-2015*. Cardiff: Welsh Assembly Government. Available online from: http://www.shnwales.org.uk/Documents/485/Strategy%20(English).pdf [accessed 2nd May 2016].

Weston, M. R., Martins, S. L., Neustadt, A. B., & Gilliam, M. L. (2012). Factors influencing uptake of intrauterine devices among postpartum adolescents: a qualitative study. *American Journal of Obstetrics and Gynecology*, *206*(1), 40-e1.

Whitaker, R., Hendry, M., Aslam, R., Booth, A., Carter, B., Charles, J. M., Craine, N., . . . *Williams, N.* (2016). Intervention Now to Eliminate Repeat Unintended Pregnancy in Teenagers (INTERUPT): a systematic review of intervention effectiveness and cost-effectiveness, and qualitative and realist synthesis of implementation factors and user engagement. *Health Technology Assessment, 20*(16).

Whitehead, E. (2001). Teenage pregnancy: on the road to social death. *International Journal of Nursing Studies, 38*(4), 437-446.

Wickman, M. E., Anderson, N. L. R., & Greenberg, C. S. (2008). The adolescent perception of invincibility and its influence on teen acceptance of health promotion strategies. *Journal of Pediatric Nursing, 23*(6), 460-468.

Wilcox, A. J., Weinberg, C. R., & Baird, D. D. (1995). Timing of sexual intercourse in relation to ovulation - effects on the probability of conception, survival of the pregnancy, and sex of the baby. *New England Journal of Medicine, 333*(23), 1517-1521.

Wilkinson, P., French, R., Kane, R., Lachowycz, K., Stephenson, J., Grundy, C., . . . Wellings, K. (2006). Teenage conceptions, abortions, and births in England, 1994–2003, and the national teenage pregnancy strategy. *The Lancet, 368*(9550), 1879-1886.

Williamson, L. M., Buston, K., & Sweeting, H. (2009a). Young women's perceptions of pregnancy risk and use of emergency contraception: findings from a qualitative study. *Contraception, 79*(4), 310-315.

Williamson, L. M., Buston, K., & Sweeting, H. (2009b). Young women's continued use of oral contraceptives over other hormonal methods: findings from a qualitative study. *Journal of Family Planning and Reproductive Health Care*, *35*(3), 167-172.

Willig, C., & Stainton-Rogers, W. (Eds.). (2007). *The SAGE Handbook of Qualitative Research in Psychology*. London: Sage.

Wilson, E. K., Samandari, G., Koo, H. P., & Tucker, C. (2011). Adolescent mothers' postpartum contraceptive use: a qualitative study. *Perspectives on Sexual and Reproductive Health, 43*(4), 230-237.

Wilson, H., & Huntington, A. (2006). Deviant (m) others: the construction of teenage motherhood in contemporary discourse. *Journal of Social Policy, 35*(01), 59-76.

Woodhouse (2015) *The Voluntary Sector and the Big Society – Briefing paper*. London: House of Commons.

Woods, J. L., Shew, M. L., Tu, W., Ofner, S., Ott, M. A., & Fortenberry, J. D. (2006). Patterns of oral contraceptive pill-taking and condom use among adolescent contraceptive pill users. *Journal of Adolescent Health*, *39*(3), 381-387.

Yassin, A. S., & Cordwell, D. (2005). Does dedicated pre-abortion contraception counselling help to improve post-abortion contraception uptake? *Journal of Family Planning and Reproductive Health Care, 31*(2), 115-116.

Zabin, L. S., Huggins, G. R., Emerson, M. R., & Cullins, V. E. (2000). Partner effects on a woman's intention to conceive: 'not with this partner'. *Family Planning Perspectives*, 39-45.

Zelnik, M. (1980). Second pregnancies to premaritally pregnant teenagers, 1976 and 1971. *Family Planning Perspectives, 12*(2), 69-76.

Table A1: Teenage conceptions, maternities and abortions (number/rates): age of woman at conception (under 16), England and Wales 1998- 2014

Age of woman at conception and year of conception	Number of conceptions			% of conceptions leading to abortion	Rate of conceptions, maternities and abortions			Mid-year population estimates
	Total conceptions	Conceptions leading to maternities	Conceptions terminated by abortion		Conception rate per 1,000 women in age-group	Maternity rate per 1,000 women in age-group	Abortion rate per 1,000 women in age-group	
Under 16								**Female 13-15 years**
2014	**4,160**	1,559	2,601	**62.5**	4.4	1.7	2.8	942,828
2013	**4,648**	1,785	2,863	**61.6**	4.9	1.9	3.0	958,279
2012	**5,432**	2,181	3,251	**59.8**	5.6	2.2	3.3	977,325
2011	**5,991**	2,382	3,609	**60.2**	6.1	2.4	3.7	984,767
2010	**6,674**	2,500	4,174	**62.5**	6.8	2.5	4.2	986,048
2009	**7,158**	2,878	4,280	**59.8**	7.2	2.9	4.3	987,793
2008	**7,586**	2,917	4,669	**61.5**	7.6	2.9	4.7	993,524
2007	**8,200**	3,156	5,044	**61.5**	8.1	3.1	5.0	1,009,093
2006	**7,826**	3,148	4,678	**59.8**	7.7	3.1	4.6	1,019,810
2005	**7,930**	3,404	4,526	**57.1**	7.8	3.3	4.4	1,022,769
2004	**7,615**	3,263	4,352	**57.2**	7.5	3.2	4.3	1,014,777
2003	**8,024**	3,415	4,609	**57.4**	8.0	3.4	4.6	1,008,931
2002	**7,875**	3,497	4,378	**55.6**	7.9	3.5	4.4	998,154
2001	**7,903**	3,492	4,411	**55.8**	8.0	3.5	4.5	988,252
2000	**8,115**	3,730	4,385	**54.0**	4.3	2.0	2.3	1,897,527
1999	**7,945**	3,762	4,183	**52.6**	8.3	3.9	4.4	957,576
1998	**8,452**	4,023	4,429	**52.4**	9.0	4.3	4.7	943,032

Sources: Office for National Statistics, 2016b, 2012b and 2001

Rates for women under 16, under 18, under 20 are expressed per 1,000 women aged 13-15, 15-17, 15-19 using mid-year population estimates for the related year.

Conception rates for 2001-2010 have been calculated using mid-year population estimates based on the 2011 Census and therefore may differ from previously published figures.

Table A2: Teenage conceptions, maternities and abortions (number/rates): age of woman at conception (under 18), England and Wales 1998- 2014

Age of woman at conception and year of conception	Number of conceptions				Rate of conceptions, maternities and abortions			
	Total conceptions	Conceptions leading to maternities	Conceptions terminated by abortion	**% of conceptions leading to abortion**	Conception rate per 1,000 women in age-group	Maternity rate per 1,000 women in age-group	Abortion rate per 1,000 women in age-group	Mid-year population estimates
Under 18								**Females 15-17 years**
2014	**22,653**	11.141	11,512	**50.8**	22.9	11.3	11.7	987,110
2013	**24,306**	11,956	12,330	**50.7**	24.5	12.1	12.4	991,839
2012	**27,834**	14,271	13,563	**48.7**	27.9	14.3	13.6	997,124
2011	**31,051**	15,895	15,156	**48.8**	30.9	15.8	15.1	1,005,031
2010	**34,633**	17,337	17,296	**49.9**	34.3	17.2	17.1	1,008,966
2009	**38,259**	19,573	18,686	**48.8**	37.2	19.1	18.2	1,027,436
2008	**41,361**	20,937	20,424	**49.3**	39.9	20.2	19.7	1,036,727
2007	**42,988**	21,503	21,485	**49.9**	41.6	20.8	20.8	1,034,142
2006	**41,768**	21,532	20,236	**48.4**	40.8	21.1	19.8	1,022,761
2005	**42,325**	22,709	19,616	**46.4**	41.6	22.3	19.3	1,018,129
2004	**42,198**	22,967	19,231	**45.6**	41.8	22.8	19.1	1,009,121
2003	**42,162**	22,909	19,253	**45.7**	42.3	23.0	19.3	995,719
2002	**41,951**	22,942	19,009	**45.3**	43.0	23.5	19.5	976,535
2001	**40,990**	22,250	18,740	**45.7**	42.7	23.2	19.5	960,982
2000	**41,349**	23,090	18,259	**44.2**	39.9	22.3	17.6	1,037,607
1999	**42,028**	23,937	18,091	**43.1**	45.1	25.7	19.4	931,474
1998	**44,119**	25,604	18,515	**42.0**	47.1	27.4	19.8	935,980

Sources: Office for National Statistics, 2016b 2012b and 2001

Rates for women under 16, under 18, under 20 are expressed per 1,000 women aged 13-15, 15-17, 15-19 using mid-year population estimates for the related year.

Conception rates for 2001-2010 have been calculated using mid-year population estimates based on the 2011 Census and therefore may differ from previously published figures.

Table A3: Teenage conceptions, maternities and abortions (number/rates): age of woman at conception (under 20), England and Wales 1998- 2014

Age of woman at conception and year of conception	Number of conceptions			% of conceptions leading to abortion	Rate of conceptions, maternities and abortions			Mid-year population estimates
	Total conceptions	Conceptions leading to maternities	Conceptions terminated by abortion		Conception rate per 1,000 women in age-group	Maternity rate per 1,000 women in age-group	Abortion rate per 1,000 women in age-group	
								Females
Under 20								**15-19 years**
2014	**63,116**	34,977	28,139	**44.6**	37.9	21.0	16.9	1,663,541
2013	**67,863**	37,887	29,976	**44.2**	40.5	22.6	17.9	1,677,213
2012	**73,113**	42,688	32,260	**43.9**	43.1	25.2	19.0	1,696,197
2011	**84,015**	48,331	35,684	**42.5**	48.9	28.1	20.7	1,719,795
2010	**91,679**	52,470	39,209	**42.7**	52.9	30.3	22.6	1,732,304
2009	**97,941**	56,901	41,040	**41.9**	56.2	32.6	23.5	1,743,570
2008	**103,254**	59,488	43,766	**42.4**	59.5	34.3	25.2	1,735,770
2007	**106,319**	61,075	45,244	**42.6**	61.4	35.3	26.1	1,732,216
2006	**103,120**	59,951	43,169	**41.9**	60.2	35.0	25.2	1,712,646
2005	**102,312**	61,111	41,201	**40.3**	60.2	36.0	24.3	1,698,972
2004	**101,262**	60,682	40,580	**40.1**	60.4	36.2	24.2	1,675,943
2003	**98,592**	58,911	39,681	**40.3**	59.9	35.8	24.1	1,645,700
2002	**97,107**	58,340	38,767	**39.9**	60.6	36.4	24.2	1,603,116
2001	**95,970**	57,232	38,738	**40.4**	60.8	36.3	24.5	1,578,418
2000	**97,665**	59,238	38,427	**39.4**	62.5	37.9	24.6	1,562,689
1999	**98,787**	60,661	38,126	**38.6**	63.1	38.7	24.3	1,566,550
1998	**101,627**	63,216	38,411	**37.8**	65.1	40.5	24.6	1,560,704

Sources: Office for National Statistics, 2016b 2012b and 2001

Rates for women under 16, under 18, under 20 are expressed per 1,000 women aged 13-15, 15-17, 15-19 using mid-year population estimates for the related year.

Conception rates for 2001-2010 have been calculated using mid-year population estimates based on the 2011 Census and therefore may differ from previously published figures.

Journal of Adolescent Health 57 (2015) 387–392

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

Previous Pregnancies Among Young Women Having an Abortion in England and Wales

Lisa Ann McDaid, M.Sc. [a,*], Jacqueline Collier, Ph.D. [b], and Mary Jane Platt, M.D. [c]

[a] School of Health Sciences, University of East Anglia, Norwich Research Park, Norwich, United Kingdom
[b] School of Psychology, University of East Anglia, Norwich Research Park, Norwich, United Kingdom
[c] Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, United Kingdom

Article history: Received October 13, 2014; Accepted June 10, 2015
Keywords: Teenage; Pregnancy; Termination; Abortion; Birth; Repeat; Subsequent

A B S T R A C T

Purpose: The purpose of this study was to use national statistics on abortions carried out in England and Wales to more precisely estimate the proportion of young women aged <20 years obtaining an abortion who have had one or more previous pregnancies.
Methods: Secondary analysis of abortion data from the Office of National Statistic and the Department of Health by parity for women aged <20 years, ordinarily residing in England and Wales, from 1992 to 2013.
Results: Over the past 20 years, the proportion of teenagers in England and Wales having an abortion as a result of a subsequent pregnancy increased by 33% (from .172 in 1992 to .229 in 2013). Most of this increase occurred before 2004, and the proportion now appears to have stabilized. In 2013, 22.9% of the young women aged <20 years who underwent an abortion had had at least one previous pregnancy (either a birth or an abortion). Only a minority (<5% of young women who obtained an abortion) had had more than one previous pregnancy.
Conclusions: The findings show that nearly one in four teenagers presenting for an abortion have already been in contact with health services for a previous birth or abortion. Greater policy emphasis must be placed on the accurate identification of the proportion of teenage pregnancies that occur as a result of a subsequent pregnancy and developing more effective "secondary prevention" interventions to help the first-time pregnant and parenting teenagers manage their future reproductive lives and prevent further unplanned pregnancies.

IMPLICATIONS AND CONTRIBUTION

Nearly, one in four teenagers aged <20 years presenting for an abortion in England and Wales have already had previous pregnancies. This adds to evidence which indicates that teenagers who become pregnant are a high-risk group for further pregnancies and suggests that greater emphasis must be placed on developing more sophisticated and effective "secondary prevention" interventions.

The teenage conception rate in England and Wales has notably declined in recent years and is now at a record low. For 15- to 19-year-olds, the estimated conception rate for 2013 was 40.5 per 1,000, down by 44% from 61.6 per 1,000 in 1998 [1] (the baseline year for the former Labour government's *Teenage Pregnancy Strategy*, which sought to halve the under 18 conception rate over a 10-year period [2]). However, further reductions are still needed to bring the rate in line with other Western European countries [3]. As not all teenage conceptions are first-time conceptions, it is important to know the number of teenagers who become pregnant for the first time and the number who become pregnant for the second time or more. This information will help to guide more targeted interventions to maintain the downward trend in teenage pregnancy and to monitor the effectiveness of current sexual health priorities on reducing under 18 conceptions [4–6] and unwanted pregnancies among all women of fertile age, including unwanted pregnancies after a birth and after an abortion [4].

Conflicts of Interest: The authors have no conflicts of interest to declare.

* Address correspondence to: Lisa Ann McDaid, M.Sc., School of Health Sciences, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ, United Kingdom.
E-mail address: l.mcdaid@uea.ac.uk (L.A. McDaid).

http://dx.doi.org/10.1016/j.jadohealth.2015.06.008

Previous research from the United Kingdom estimates that between 12.5% and 30% of teenage pregnancies are second- or higher-order pregnancies [7–12], indicating that subsequent pregnancies may be overrepresented in the under 20 conception rate. However, there are no routinely available data in the United Kingdom on the number of teenagers who have had more than one pregnancy, so establishing the prevalence is difficult. The reason for this is, at least in part, historic and cultural and represents demographic changes in marriage and motherhood. Under the Population (Statistics) Act 1938, birth registration data on the number of previous children were collected for married women only. Since 2013, legislative amendments to the Act to collect this information for all women regardless of marital status have made it possible to identify the proportion of teenage mothers having more than one child [13]. In the first year for which information on the number of previous live-born children was recorded, figures show that of the 29,054 live births to mothers aged <20 years, 25% had had at least one other live birth [14]. Nevertheless, these birth-related data fail to provide a full picture of the prevalence of teenagers who have more than one pregnancy, given that approximately half of all teenage conceptions in England and Wales end in abortion (in 2013, 61.8% of all conceptions under 16, 51.1% of all conceptions under 18, and 44.5% of all conceptions under 20) [15]. This is similar to the European average for countries with liberal abortion laws and where complete data are available [14].

Data on the number of previous births and abortions within the population of young women presenting for an abortion can be obtained from national abortion figures, published by the Department of Health (DH). The annual bulletin, *Abortion Statistics, England and Wales Series* (2002–2013) and associated data tables include information on the number of previous pregnancies to women by age and outcome. Previously these data were published by the Office of National Statistics (ONS) in the *Abortion Statistics Annual Reference Volume–Series AB* (1991–2001). Abortion statistics for 2013 show that 13.4% of abortions to teenagers aged <20 years were to teenagers who had one or more previous abortions and 12.2% were to teenagers who had one or more previous live or still births [9]. Using data published by the DH and ONS, Collier [16] reported that the proportion of abortions carried out subsequent to a previous live or still birth increased by 20% between 1992 and 2007 (from .096 to .115), whereas a 47% increase (from .091 to .134) was observed for those who had undergone a previous abortion. In recent years, this proportion has remained relatively stable. However, Collier could not report the overall rate of abortions after one or more previous pregnancies as published national data are limited to reporting previous abortions and previous births in separate subcategories. These categories are not mutually exclusive and individuals can belong to one *or* both subcategories, thus excluding the possibility of calculating a subsequent pregnancy rate by simply adding the previous birth numbers to the previous abortion numbers.

The aim of this article was to address the limitations of previous research and use the data held by the DH from abortion notification forms (HSA4) to identify the proportion of teenagers presenting for an abortion for whom previous pregnancies (ending in either an abortion or live or still birth) have also been recorded. This will provide an indication of the prevalence of subsequent teenage pregnancies in England and Wales. In doing so, this article will also demonstrate the need to maintain and publish national data to monitor trends, evaluate interventions, and support strengthening of public policies aimed at the prevention of further pregnancies among pregnant and parenting teenagers.

Methods

Data

This study used previously unpublished abortion data from abortion notification forms (HSA4 revised 1991, 2002, and 2006) routinely collected by the DH to determine the proportion of young women presenting for an abortion who have been pregnant at least once before (either resulting in a live or still birth or an abortion) and to assess the changes in these figures over time. This more detailed, population-level information was released on special request for research purposes.

For abortions performed in England and Wales, it is a legal requirement that official notification is supplied to the Chief Medical Officer under the Abortion Act 1967. The medical practitioner taking responsibility for the abortion must do this within 14 days of the procedure using an abortion notification form (HSA4). In the patient details section of the form under the heading “Parity” (Form HSA4 revised 2006, Section 3: F), the form provides space for the medical practitioner to include information on numbers of any previous pregnancies (resulting in live births and still births over 24 weeks; miscarriages and ectopic pregnancies; or abortions). This information is derived from hospital records and patient report. Data on spontaneous miscarriage and ectopic pregnancies were not incorporated into the analysis as these have only been available since 2003.

For this study, we requested data for women aged <20 years and ordinarily residents of England and Wales, from 1992 to 2013, in a cross-tabulated format to identify the number of abortions by the number of previous abortions and previous births by calendar year. These data were supplied as population-level summary data in an Excel spreadsheet. This permitted the identification of the number of young women who had experienced any combination of preceding pregnancy outcomes (none, only abortion, only birth, a combination of abortion, and birth). The data were cross-checked against published DH data on abortions, abortions after a previous abortion, and abortions after a previous birth for young women aged <20 years, which were extracted from the annual abortion statistics series published by the DH and ONS (1992–2013). Then, for each year, the number of abortions in this age group was divided by the midyear population estimates published by the ONS for women aged 15–19 years, to calculate rates per 1,000.

Ethical approval was not sought for this study as it was based on the secondary analysis of an existing, summarized anonymous data set presented at population level.

Analysis

The number of young women aged <20 years experiencing previous pregnancies was identified and used to calculate the proportion of abortions from first pregnancies and the proportion which were to second- or higher-order pregnancies (i.e., either after at least one previous birth or previous abortion). This was calculated for each year from 1992 to 2013, with 95% confidence intervals and is reported in Table 1 along with the proportion of previous abortions and previous births for 1992–2013 calculated using routinely published abortion data. This is

Table 1
Number and proportion of previous pregnancies among those aged <20 years having an abortion by year, 1992–2013

Year	Total number of abortions <20 years	Rate per 1,000 aged 15–19 years[a]	With previous pregnancy (birth and/or abortion)[b]		With previous abortion		With previous birth	
			Number	Proportion (95% CI)	Number	Proportion (95% CI)	Number	Proportion (95% CI)
1992	30,601	20.3	5,260	.172 (.168–.176)	2,784	.091 (.088–.094)	2,941	.096 (.093–.099)
1993	28,903	19.8	5,145	.178 (.174–.183)	2,634	.091 (.088–.095)	2,966	.103 (.099–.106)
1994	28,469	19.6	5,116	.180 (.175–.184)	2,694	.095 (.091–.098)	2,895	.102 (.098–.105)
1995	28,215	19.1	5,089	.180 (.176–.185)	2,784	.098 (.095–.102)	2,804	.099 (.096–.103)
1996	32,435	21.6	5,733	.177 (.173–.181)	3,183	.098 (.095–.101)	3,109	.096 (.093–.099)
1997	33,381	21.8	6,220	.186 (.182–.191)	3,461	.104 (.101–.107)	3,401	.102 (.099–.105)
1998	36,995	23.7	7,458	.202 (.198–.206)	4,132	.112 (.109–.115)	4,117	.111 (.108–.115)
1999	36,410	23.2	7,662	.210 (.204–.215)	4,216	.116 (.113–.119)	4,282	.118 (.114–.121)
2000	36,966	23.7	8,054	.218 (.214–.222)	4,452	.120 (.117–.124)	4,510	.122 (.119–.125)
2001	37,089	23.5	8,161	.220 (.216–.224)	4,671	.126 (.123–.129)	4,410	.119 (.116–.122)
2002	36,718	22.9	7,988	.218 (.213–.222)	4,736	.129 (.126–.129)	4,209	.115 (.111–.118)
2003	38,214	23.2	8,334	.218 (.214–.222)	4,922	.129 (.126–.132)	4,393	.115 (.112–.118)
2004	39,142	23.4	8,961	.229 (.225–.233)	5,181	.132 (.129–.136)	4,840	.124 (.120–.127)
2005	39,099	23.0	9,063	.232 (.228–.236)	5,423	.139 (.135–.138)	4,746	.121 (.118–.125)
2006	41,286	24.1	9,301	.225 (.221–.229)	5,542	.134 (.131–.138)	4,980	.121 (.118–.124)
2007	43,955	25.4	9,776	.222 (.219–.226)	5,897	.134 (.131–.137)	5,067	.115 (.112–.118)
2008	42,690	24.6	9,834	.230 (.226–.234)	5,958	.140 (.136–.143)	5,080	.119 (.119–.222)
2009	40,067	23.0	9,150	.228 (.224–.233)	5,485	.137 (.134–.140)	4,787	.120 (.116–.123)
2010	38,269	22.1	8,773	.229 (.225–.234)	5,307	.139 (.136–.142)	4,507	.118 (.115–.121)
2011	34,923	20.3	8,090	.232 (.227–.236)	4,865	.139 (.136–.143)	4,199	.120 (.117–.124)
2012	31,380	18.7	7,314	.233 (.228–.238)	4,411	.141 (.137–.145)	3,828	.122 (.118–.126)
2013	29,011	17.1	6,631	.229 (.224–.233)	3,872	.134 (.130–.137)	3,540	.122 (.118–.126)

Department of Health and Office for National Statistics
CI = confidence interval.
[a] Rates for women younger than 20 years are expressed per 1,000 women aged 15–19 years using midyear population estimates for the related year.
[b] The percentage of young women presenting for an abortion with a previous pregnancy is less than the combined total of those young women with a previous birth or abortion as some young women may have previously experienced both.

reported in the same format as a previous article reporting 1992–2007 data to facilitate comparison [16]. Abortion rates per 1,000 women aged 15–19 years using midyear population estimates for each year have also been calculated.

The percentage change was calculated as the proportion of abortions that were from second or subsequent pregnancies in the earliest year (*baseline year*) minus the proportion in the latest year (*change year*) divided by the proportion of abortions in the earliest year that were second or subsequent pregnancies, expressed as a percentage.

$$\frac{\text{baseline year} - \text{change year}}{\text{baseline year}} \times 100$$

The chi-square test for linear trend was used to assess the statistical significance of the trend.

Results

In 2013, 22.9% of pregnant women aged <20 years obtaining an abortion had been pregnant previously (either ending in abortion or birth). Disaggregating this data, 13.4% of those presenting for an abortion had previously had an abortion and 12.2% had previously given birth (Table 1). Some young women experienced two or more previous pregnancies which included both a previous birth and a previous abortion. Although only a minority of teenagers present for an abortion with two or more previous pregnancies, this almost doubled between 1992 (3.1%) and 2002 (5.0%) and has remained at this level since then (Table 2).

The percentage of abortions that were to women who had been previously pregnant increased by 33% between 1992 and 2013 (from 17.2% to 22.9%, 95% confidence interval), a percentage that has remained fairly stable from 2004 to 2013 (Figure 1). Mantel–Haenszel χ^2 tests for linear trend from 1992 to 2013 showed that the increase was statistically significant for subsequent pregnancy when following any preceding outcome ($\chi^2 = 1568.62$, $df = 1$, $p < .001$), after birth only ($\chi^2 = 367.66$, $df = 1$,

Table 2
Number and proportion of those aged <20 years presenting for an abortion with two or more previous pregnancies, 1992–2013

Year	Total number of abortions	Total number of previous pregnancies (birth and/or abortion)	Proportion of previous pregnancies >1 (95% confidence interval)
1992	30,601	937	.031 (.029–.033)
1993	28,903	892	.031 (.029–.034)
1994	28,469	905	.032 (.030–.034)
1995	28,215	924	.033 (.031–.035)
1996	32,435	1,015	.031 (.029–.033)
1997	33,381	1,171	.035 (.033–.037)
1998	36,995	1,397	.038 (.036–.040)
1999	36,410	1,506	.041 (.039–.044)
2000	36,966	1,621	.044 (.042–.046)
2001	37,089	1,653	.045 (.043–.047)
2002	36,718	1,823	.050 (.048–.052)
2003	38,214	1,900	.050 (.048–.052)
2004	39,142	1,956	.050 (.048–.052)
2005	39,099	2,029	.052 (.050–.054)
2006	41,286	2,093	.051 (.049–.053)
2007	43,955	2,077	.047 (.045–.049)
2008	42,690	2,109	.049 (.047–.052)
2009	40,067	2,004	.050 (.048–.052)
2010	38,269	1,862	.049 (.047–.051)
2011	34,923	1,702	.049 (.047–.051)
2012	31,380	1,630	.052 (.050–.055)
2013	29,011	1,419	.049 (.047–.052)

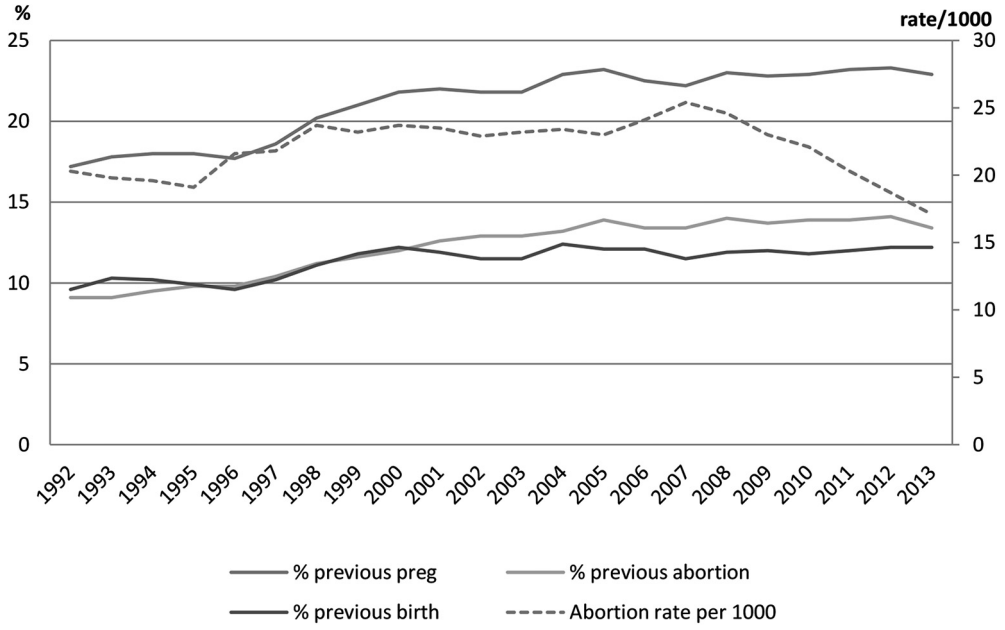


Figure 1. Abortion rate and the percentage of previous pregnancies, previous abortions, and previous births to those aged <20 years by year, 1992–2013.

$p < .001$), and after abortion only ($\chi^2 = 1750.54$, $df = 1$, $p < .001$). At the same time, it can be seen that the overall rate of abortions per 1,000 young women aged 15–19 years has been in decline since 2007 (Figure 1).

The data were not disaggregated further by age given that teenagers aged <16 years having an abortion who have had one or more previous pregnancies are very small in numbers. For example in 2013, 68 girls aged <16 years had had a previous abortion of all the 2,538 abortions carried out on women aged <16 years; more importantly, this means of the 3,872 subsequent teenage abortions, only 2% were to those aged <16 years [15]. Similarly, the UK Abortion Act 1967 covers England and Wales, and most available data are not separated by the DH for reporting purposes. The data available for our research were received for the two countries together, and therefore, our analysis and findings are for the two countries combined.

Discussion

Key findings

The data presented here provide further indication of the level of subsequent teenage pregnancies in England and Wales. The findings show that abortions to young women rose steadily from 1992 to a peak in 2007 and then declined to a level seen 10 years earlier. The proportion of those abortions to previously pregnant teenagers rose steadily from 17.2% in 1992 and has since plateaued, remaining at around 22%–23% since 2004.

Explaining these trends is challenging, given that there is little UK-based research exploring why some young women have further pregnancies when they do not want to be pregnant and which interventions are most effective. It is perhaps not surprising that both abortion and subsequent abortion rates increased over time after the legalization of abortions in the United Kingdom under certain conditions in 1967, and as demographers predicted at the time, they have continued to rise, albeit more gradually, over a number of decades before stabilizing [17,18]. Since the late 1990s, concerted efforts from national and local governments to reduce the teenage pregnancy rate have likely impacted on the proportion of teenagers who have a subsequent pregnancy that ends in abortion. A further explanation is potentially improved contraceptive use and use of more effective and less user-dependent methods. However, data for England show that long-acting reversible contraception (LARC) use, which includes the contraceptive injection (in England and Wales the contraceptive injection is classified in the National Institute for Health and Care Excellence clinical guideline 30 as LARC, it is not classified as such in the United States), contraceptive implant, intrauterine devices, and hormonal coil [19], markedly increased in 2007 among those aged <20 years [20], and yet, this was not reflected in a downturn in the proportion of young women seeking an abortion who had been pregnant previously. Indeed, research suggests that LARC methods are not always acceptable to young women for reasons such as irregular vaginal bleeding, pain, mood swings, and headaches [21,22], and some young women may not want to be pregnant now but do not want to remove the possibility of becoming pregnant in the near future.

The continuing high proportion of teenagers who have an abortion subsequent to one or more previous pregnancies highlights the complexity of these young women's lives. It must be recognized that the circumstances of each pregnancy may be very different, and it may be difficult to eliminate all further unwanted pregnancies taking into account the interrelationship between factors such as fertility, frequency of sexual activity, access to contraception, contraceptive failure, social attitudes, lifestyles, and aspirations. The data presented here clearly demonstrate that young women who become pregnant can be considered a high-risk group for subsequent unplanned, mistimed, or unwanted pregnancies, emphasizing the importance of

embedding preventative actions and behaviors among this group both before and after the resolution of the first pregnancy.

Strengths and limitations

A strength of this study is that it reports on data captured by the DH as part of a legal requirement placed on doctors taking responsibility for the abortion to notify the Chief Medical Officer. Previous studies that report on subsequent pregnancy rates relied on self-reported survey data [4–6] which do not provide the same completeness of coverage or validity checks. The DH guidance on checks made on the HSA4 form indicates that "For women of young ages with previous abortions a check is made that the previous abortion and age were also recorded correctly" (p.4) [23]. However, in common with most medical history data, the accuracy of reported information on previous pregnancies and abortions remains dependent on whether this information was disclosed in the first instance and correctly reported by the medical practitioner completing the form [24]. In some cases, this information will have been verified through hospital records, but if the previous pregnancy was managed at another hospital or by an independent provider (64% of abortions to those <20 years were carried out in the independent sector in 2013 [15]), then the medical practitioner completing the HSA4 form may not have access to this information. A further limitation of the study is that an individual may have experienced more than one pregnancy resulting in an abortion in the same calendar year, which will have resulted in both of these being counted if they also had a pregnancy before this year and therefore that individual being "double-counted." Additionally, this study excludes data on subsequent pregnancies resulting in a birth so cannot provide a fully comprehensive picture of subsequent teenage pregnancies in England and Wales. The findings are also unable to offer any insight in how best to address the issue.

It is recognized that this article solely focuses on national data and does not illustrate the potential geographic variations that may exist. Although local area data are not available on the proportion of teenagers having an abortion who have had a previous birth, there are data on the proportion of teenagers having had one or more previous abortions in those aged <19 and <25 years—the age categories for which this is reported. Clinical Commissioning Group data for 2013 show that the proportion of teenage having more than one abortion ranges from areas where the numbers were so low that data were suppressed for confidentiality reasons, to areas, for example North East Lincolnshire, where more than one-third of teenagers aged <19 years (36.2%) presenting for an abortion had had one or more previous abortions [25]. Whether this variation reflects different populations or differential service provision or access, or a combination of both, such differences emphasize the need not only for more comprehensive national data but also for routine reporting of more localized data on subsequent teenage pregnancies.

Implications of the study

The analysis of this national data on previous pregnancies among young women having an abortion confirms that subsequent pregnancy data cannot be calculated by simply summing together the proportion of pregnancies reported with a previous abortion and those reported with a previous birth. Based on the DH abortion data for the last decade, such a simple summation results in 2.7%–3.0% more than estimation of subsequent pregnancies, for example in 2013 summation would suggest 25.6% of abortions follow a repeat pregnancy, whereas the more accurate data analysis reveals that the correct rate is 22.9%.

The findings from this study demonstrate that a significant proportion of teenagers who conceive then go on to have further pregnancies in their teenage years. Previous research carried out with young women in London undergoing abortion and subsequent abortion suggested that there was often a contradiction between intention and behavior, with some young women continuing to have unprotected sex while being fully aware of the risks of pregnancy and not wanting to get pregnant. Other young women were said to have a poor understanding of their own fertility after abortion or struggled to use their preferred method of contraception [26].

There is emerging guidance on best practice in supporting teenagers to prevent subsequent pregnancies. The National Institute for Health and Care Excellence public health guidance 51 [27] on contraceptive services with a focus on young people up to the age of 25 years, includes specific recommendations on providing contraception after a birth or an abortion. These focus on ensuring that young women have an effective contraceptive method in place that best meets their needs and are aware of their fertility after pregnancy. There are also some local examples of best practice in the United Kingdom. In Hull, contraception outreach nurses were commissioned to work in partnership with the midwifery team to visit young mothers at home within four weeks postpartum [28]. After the introduction of this initiative, subsequent conceptions among those aged <18years fell from 17.7% in 2008 to 13.8% in 2011. In the London Borough of Hackney, between 2007 and 2008, the number of subsequent abortions reduced from 47 to 29 after the appointment of an assertive outreach nurse to help previously pregnant teenagers to choose effective contraception and to support them in the continued use of this [12]. In Wales, the "Empower to Choose Project" has been launched to reduce subsequent teenage conceptions by encouraging the uptake of LARC and auditing the contraceptive advice given to teenagers [29].

A forthcoming systematic review on interventions for preventing unintended subsequent teenage pregnancies among adolescents should increase the evidence base and shape future provision [30]. However, further work is needed to establish a more accurate and comprehensive picture of the overall proportion of subsequent teenage pregnancies in England and Wales and their patterns according to pregnancy outcomes. This later point is important as motivation, or the lack thereof, behind each pregnancy may differ and therefore discrete interventions may be required. In-depth qualitative work to explore teenagers' experiences of subsequent pregnancies and their sexual and contraceptive behaviors is also needed to increase understanding of the complexities of the issues involved.

The teenage years are a unique time where a number of different changes and challenges are faced. To continue declines in the teenage pregnancy rate efforts need to focus both on preventing first-time pregnancies and assisting pregnant and parenting teenagers to help them better manage their fertility and sexual lives. This is particularly important now, with the commissioning of community contraceptive services placed with local authorities and maternity and abortion services the responsibility of Clinical Commissioning Groups. All organizations

will need to work together so that teenagers have an effective contraceptive plan in place that meets their needs after a pregnancy, along with receiving ongoing support to encourage uptake and continuation and improved access to emergency contraception.

Acknowledgments

This study used abortion data supplied on request by the Department of Health (DH).

Author contributions: J.C. devised the study. L.M., J.C., and M.J.P. drafted and approved the article. L.M., J.C., and M.J.P. conducted the statistical analysis.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. The data set was obtained from the DH by special request, and this article was produced as part of a postgraduate research doctorate. Ethical approval: This study used anonymized secondary data presented at summarized level. No further ethical approval was required. Transparency declaration: L.M. affirms that this article is a transparent account of the data being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

References

[1] Office of National Statistics. Conceptions in England and Wales, 2013. Available at: http://www.ons.gov.uk/ons/rel/vsob1/conception-statistics–england-and-wales/2013/stb-conceptions-in-england-and-wales-2013.html; 2015. Accessed March 9, 2015.

[2] Social Exclusion Unit. Teenage pregnancy report. London: Social Exclusion Unit; 1999.

[3] United Nations International Children's Emergency Fund. A league table of teenage births in rich nations. Innocenti Report Card No. 3. UNICEF Innocenti Research Centre. Available at:, www.unicef-irc.org/publications/328; 2001. Accessed March 9, 2015.

[4] Department of Health. A framework for sexual health improvement in England. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/142592/9287-2900714-TSO-SexualHealthPolicyNW_ACCESSIBLE.pdf; 2013. Accessed March 9, 2015.

[5] Department of Health. Public health outcomes framework, 2013 – 2016. Available at: https://www.gov.uk/government/publications/healthy-lives-healthy-people-improving-outcomes-and-supporting-transparency; 2012. Accessed March 9, 2015.

[6] Welsh Assembly Government. Sexual health and wellbeing action plan for Wales, 2010-2015. Available at: http://gov.wales/docs/phhs/publications/101110sexualhealthen.pdf; 2010. Accessed March 8, 2015.

[7] Churchill D, Allen J, Pringle M, et al. Consultation patterns and provision of contraception in general practice before teenage pregnancy: Case-control study. BMJ 2000;321:486–9.

[8] Birch DM. The adolescent parent: A fifteen year longitudinal study of school-age mothers and their children. Int J Adolesc Med Health 1998;10:141–53.

[9] Perrow F. Teenagers and double buggies: Preventing a second pregnancy. RCM Midwives J 2004;7:508.

[10] Wellings K, Wadsworth J, Johnson A, Field J. Teenage sexuality, fertility and life chances. A report prepared for the Department of Health using data from the national Survey of Sexual Attitudes and Lifestyles. London: Department of Health; 1996.

[11] Department for Education and Skills. Teenage pregnancy next steps: Guidance for local authorities and primary care trusts on effective delivery of local strategies. Available at: http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/DFES-03905-2006.pdf; 2006. Accessed March 8, 2015.

[12] Department for Children Schools and Families. Teenage pregnancy strategy: Beyond 2010. Available at: https://www.education.gov.uk/consultations/downloadableDocs/4287_Teenage%20pregnancy%20strategy_aw8.pdf; 2010. Accessed March 5, 2015.

[13] Office of National Statistics. How changes to the Population Statistics Act will affect birth statistics. London: Office of National Statistic. Available at: www.ons.gov.uk/ons/dcp171778_270569.pdf; 2012. Accessed March 5, 2015.

[14] Office of National Statistics. Birth summary tables, England and Wales, 2013. Available at: http://www.ons.gov.uk/ons/rel/vsob1/birth-summary-tables–england-and-wales/2013/index.html; 2014. Accessed March 5, 2015.

[15] Department of Health. Abortion statistics, England and Wales, 2013. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319460/Abortion_Statistics__England_and_Wales_2013.pdf; 2014. Accessed March 5, 2015.

[16] Collier J. Erratum to "The rising proportion of repeat teenage pregnancies in young women presenting for termination of pregnancy from 1991 to 2007" [Contraception 79 (2009) 393–396]. Contraception 2014;89:475–7.

[17] Tietze C. Repeat abortions-why more? Fam Plann Perspect 1978;10:286–8.

[18] Tietze C, Jain AK. The mathematics of repeat abortion: Explaining the increase. Stud Fam Plann 1978;9:294–9.

[19] National Institute for Health and Clinical Excellence. NICE clinical guideline (CG30) Long-acting reversible contraception (update). Available at: https://www.nice.org.uk/guidance/cg30; 2005. Accessed May 30, 2015.

[20] Connolly A, Pietri G, Yu J, Humphreys S. Association between long-acting reversible contraceptive use, teenage pregnancy, and abortion rates in England. Int J Womens Health 2014;6:961.

[21] Hoggart L, Newton VL, Dickson J. "I think it depends on the body, with mine it didn't work": Explaining young women's contraceptive implant removal. Contraception 2013;88:636–40.

[22] Tocce KM, Sheeder JL, Teal SB. Rapid repeat pregnancy in adolescents: Do immediate postpartum contraceptive implants make a difference? Am J Obstet Gynecol 2012;206:481.e1–7.

[23] Department of Health. Department of Health checks made on HSA4 forms for data quality and monitoring the Abortion Act. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226933/2013_B_DH_Abortion_checks_for_data_quality_and_monitoring_the_Act.pdf; 2011. Accessed October 13, 2014.

[24] Gbolade BA. Teenage pregnancy rates and the age and sex of general practitioners: Record linkage analysis could have been used. BMJ 2000;321:381.

[25] Department of Health. Repeat abortions to women aged under 19 and under 25, by CCG of residence, England, 2013 -Data table. London: Department of Health; 2014.

[26] Hoggart L, Phillips J. Young people in London: Abortion and repeat abortion. London: Government Office For London; 2010.

[27] National Institute for Health and Clinical Excellence. NICE public health guidance (PH51). Contraceptive services with a focus on young people up to the age of 25. Available at: https://www.nice.org.uk/guidance/ph51; 2014. Accessed May 30, 2015.

[28] Teasdale G. Achieving success in reducing teenage pregnancy in Hull. Perspect Public Health 2014;134:292–6.

[29] Public Health Wales. Empower to choose project. Available at: www.wales.nhs.uk/sitesplus/888/page/59785. Accessed March 5, 2015.

[30] Whitaker R, Hendry M, Booth A, et al. Intervention now to eliminate repeat unintended pregnancy in teenagers (INTERUPT): A systematic review of intervention effectiveness and cost-effectiveness, qualitative and realist synthesis of implementation factors and user engagement. BMJ Open 2014;4:e004733.

WoSRES
West of Scotland Research Ethics Service

NHS Greater Glasgow and Clyde

West of Scotland REC 4
Ground Floor, Tennent Building
Western Infirmary
38 Church Street
Glasgow
G11 6NT
www.nhsggc.org.uk

Ms Lisa McDaid
Postgraduate Research Student
University of East Anglia - Research Studentship
School of Rehabilitation Science
University of East Anglia, Norwich Research Park
Norwich, Norfolk
NR47TJ

Date 15 July 2014
Direct line 0141-211-1722
Fax 0141-211-1847
e-mail Wosrec4@ggc.scot.nhs.uk

Dear Ms McDaid

Study title:	**Understanding patterns and prevalence of repeat teenage pregnancy in England and Wales - data linkage project.**
REC reference:	**14/WS/1048**
IRAS project ID:	**150533**

The Proportionate Review Sub-committee of the West of Scotland 4 reviewed the above application on 15 July 2014.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact the REC Manager Ms Evelyn Jackson, wosrec4@ggc.scot.nhs.uk.

Ethical opinion

On behalf of the Committee, the sub-committee gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Conditions of the favourable opinion

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research

Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion").

Summary of discussion at the meeting (if applicable)

Social or scientific value; scientific design and conduct of the study

It was felt that this is a worthwhile study and noted that the data already exists in two separate databases. These databases would be linked by someone who has access to the confidential information and the combined data would only be accessible to researchers once it has been de-identified.

Informed consent process and the adequacy and completeness of participant information

It was accepted that the reasons for not taking consent were entirely valid and noted that advice regarding this had been taken from the Research Ethics Service, Department of Health and the Office for National Statistics.

Approved documents

The documents reviewed and approved were:

Document	*Version*	*Date*	
Covering letter on headed paper [RTP Data Linkage Study REC Covering Letter]	-	02 July 2014	
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [PDF]	-	02 July 2014	
REC Application Form [REC_Form_02072014]	-	02 July 2014	
Research protocol or project proposal	-	-	
Summary CV for Chief Investigator (CI)	-	-	
Summary CV for supervisor (student research)	-	-	

Membership of the Proportionate Review Sub-Committee

The members of the Sub-Committee who took part in the review are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

With the Committee's best wishes for the success of this project.

14/WS/1048	**Please quote this number on all correspondence**

Yours sincerely

[redacted]

For [redacted]
Alternate Vice-Chair

Enclosures: *List of names and professions of members who took part in the review*
"After ethical review – guidance for researchers"

Copy to: [redacted]

Department of Health

From the Chief Medical Officer,
Professor Dame Sally C Davies FRS FMedSci

Richmond House
79 Whitehall
London
SW1A 2NS

T: +44 (0)20 7210 5151-4
F: +44 (0)20 7210 5407
E: sally.davies@dh.gsi.gov.uk
W: www.gov.uk

Our reference: CMOTO00848042

31 July 2014

Professor Jacqueline Collier
Professor of Health Services Research
University of East Anglia
Norwich Research Park
Norwich NR4 7TJ

Dear Jacqueline

Request for agreement to use abortion data in a research project

Thank you for your letter asking for permission to use abortion data for your proposed study linking abortion data with maternity data in order to identify the prevalence of repeat teenage conceptions and patterns in terms of outcomes.

I have seen the research study's background and note that you received NIGB and NRES approval to hold and use termination of pregnancy data, and I am content for you to use abortion data for this study.

To progress your request, please would you ring [redacted] on [redacted] or by email: [redacted] and she will send you a confidentiality agreement document. On receipt of a fully completed and signed copy, the data held by the Abortion Statistics Team can be used for the purposes of the research as outlined. The confidentiality agreement states that: the data released should be kept secure and only up to a maximum 12 months, but this can be extended to 3 years with written justification, and then it must be destroyed; the data must be used only for the approved research; the data must not be forwarded to any third party; and you must seek agreement from DH before publishing any resulting tables or articles. There will be no charge for the data.

I look forward to seeing the results in due course.

Yours ever

[redacted]

PROFESSOR DAME SALLY C DAVIES
CHIEF MEDICAL OFFICER
CHIEF SCIENTIFIC ADVISER

From: [redacted]
To: [redacted]
Cc:
Date: 27/01/2015 07:48
Subject: Teenage Pregnancies

Dear Jacqueline,

The microdata release panel and the ONS Data Custodian have approved the release of the microdata to support your study for Teenage Pregnancies.

I have attached data access agreements for your completion, as study lead you must sign the main data access agreement at para 12.1. If the day-to-day management of the data is to be delegated to another person they must sign at para 12.2. All other persons having access to the data must sign and complete a short declaration of use. Before signing, they must first read the conditions of supply in the main agreement. They must be given a copy of the main agreement to retain.

The short declaration list must contain the names of everyone who has completed a short declaration of use. The list must be signed by the person signing the main data access agreement at 12.2. If the Head of Profession does not delegate the management of the data (para 12.2 left unsigned) then the Head of Profession must sign the short declaration list.

Please note that data cannot be supplied until the original completed and signed agreements have been received.

If you have any problems please let me know.

Regards

[redacted]

We welcome feedback on the content, format and relevance of the data provided. Please provide any feedback and state whether you would like your contact details to be added to our list of users. All known users will be invited to participate in any consultations that are run.

PART I. MMAT criteria & one-page template (to be included in appraisal forms)

Types of mixed methods study components or	Methodological quality criteria (see tutorial for definitions and examples)	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives*), or a clear mixed methods				
	Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components).				
	Further appraisal may be not feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening				
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question				
	1.2. Is the process for analyzing qualitative data relevant to address the research question (objective)?				
	1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were				
	1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their				
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?				
	2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?				
	2.3. Are there complete outcome data (80% or above)?				
	2.4. Is there low withdrawal/drop-out (below 20%)?				
3. Quantitative non-randomized	3.1. Are participants (organizations) recruited in a way that minimizes selection bias?				
	3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups				
	3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants				
	3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed				
	4.2. Is the sample representative of the population understudy?				
	4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?				
	4.4. Is there an acceptable response rate (60% or above)?				
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the				
	5.2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question				
	5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative				
	Criteria for the qualitative component (1.1 to 1.4), and appropriate criteria for the quantitative component (2.1 to 2.4, or 3.1 to 3.4, or				

*These two items are not considered as double-barreled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), and (2) data may be integrated, and/or qualitative findings and quantitative results can be integrated.

What is the study about?

What will I have to do?

ReTA Research Study

Information Sheet for Young Women

What is in it for me?

Is it confidential?

We would like to invite you to take part in our research study which aims to better understand the experiences of teenagers who become pregnant again following an abortion. It is hoped that by talking with young women who have been through this experience, and thinking about what they say, I will be able to understand these experiences better and maybe help others.

This leaflet gives you more information about the research and what it would involve for you. Please take time to read it carefully and consult with others if you wish before deciding whether to take part or not.

The study is being carried out by a postgraduate research student. Please ask the researcher if you have any questions or would like further information.

If you are interested in taking part then you can either:

- Speak with the researcher if they are available in person
- Send a text, call or email the study researcher using the contact details at the end of this study information sheet
- Let someone at the clinic or organisation where you were given the study information sheet know. Please state how you would like to be contacted to discuss the project further.

Thank you for considering taking part in this research study

Insert signature	*Insert signature*
Lisa McDaid **Postgraduate Research Student**	**Professor Jacqueline Collier** **Principal Supervisor**

What is this study about?

The research will try to better understand the experiences of teenagers who have further pregnancies following an abortion.

Who is carrying out this study?

This is a postgraduate student research study which is funded by the University of East Anglia.

Why have I been invited to take part?

We have approached a number of organisations that support teenagers with pregnancy advice and sexual health services, and asked them to pass on information about the study to young women who are the right age and who have experienced a second or subsequent pregnancy following an abortion.

What would taking part mean?

You will be asked to tell us your story and share your views and experiences of sexual health, contraception, pregnancy and abortion during an interview. There are no right or wrong answers. It is what you think that matters**. The discussion will take place in a private room with the study researcher and should last about 60 minutes.** With your permission, the discussion will be recorded so that we do not forget anything but if you prefer for it not to then please let the researcher know. This will be stored in an anonymous way so that you cannot be identified.

What will I have to do?

The researcher will arrange a time and place to meet that is convenient for you (e.g. at a pregnancy choice and sexual health service that you have attended or young person's advisory service) or the interview can be carried out by telephone if you prefer.

Do I have to take part?

No, it is up to you. We believe it is important to find out young women's own views rather than the opinions of others. If you do take part, you do not have to answer all the questions and you can stop taking part in the study at any time. If you do not take part it will not affect the standard of health care and support you receive.

What is in it for me?

Everyone who takes part will be given a £10 high street gift voucher as a thank you, plus basic travel expenses. The findings will also help us to understand more about repeat teenage pregnancy following abortion and may inform the way that services are provided to meet the needs of young women in the future.

Is it confidential?

Yes. Anything that you say will be treated in strict confidence. However, if we are worried about your safety or the safety of others we may need to tell someone. We will always talk to you about this first, and if we do need to tell someone we will try to give you as much control over what happens as possible.

The data from the interview will not be linked to you in any way. It will be held at the University of East Anglia on a secured computer or in locked cabinet and destroyed five years after the end of the study.

Will people know I took part?

No. We will give you a study number and any names or other identifiable information from our conversation will be removed from the interview information. We may use direct quotes from the conversation in our report, but you will not be identified and they will not be linked to you in any way.

We will not contact you unless you tell us this is OK and if you do agree we will only contact you using your preferred method.

What happens if I become upset or do not want to carry on with the interview?

Many people value the opportunity to talk about their experiences. However, we recognise that some of the topics discussed during the interview may be of a sensitive nature. We will make every effort to approach issues sensitively but should you become uncomfortable or upset you can briefly stop the interview or stop it completely without having to give reason. A trained health professional will be on hand to talk with you if needed. The researcher will also provide you with information about where to access further support.

If you stop taking part completely either during or after the interview, we will ask you if you would prefer us to destroy all the information about you or whether we can still use the information already collected. Whether you agree to this is entirely up to you.

What if I have a complaint?

If you have a concern or complaint about the way you have been approached or treated during this study, please feel free to contact my research supervisor Professor Jacqueline Collier (contact details on the last page). Alternatively, if you want to talk with someone independent about the research, you can contact your local Patient Advice and Liaison Service (PALS) who will advise you on what to do. Your nearest PALS office can be found at www.pals.nhs.uk

What will happen to the results?

The results of this study will be written up and form the basis of my postgraduate thesis. Parts may also be submitted for academic research papers and presentations in order to increase understanding of what is like for young women who have more than one abortion. A summary report of the research findings will be produced and made available to participants and professionals that supported the study on the study website.

Who has reviewed this study?

This research study has been reviewed and approved by the Cambridge South NRES Research Ethics Committee and the Research and Development Department's at the Norfolk and Norwich University Hospital, James Paget University Hospitals and NHS Norfolk and Waveney. It has also been reviewed by Pregnancy Choices or other health care professionals.

Where can I get further information about the study?

If you would like further information about taking part in health research please visit the NHS Choice website:
www.nhs.uk/Conditions/Clinical-trials/Pages/Gettinginvolvedinresearch.aspx

If you have any questions about this study, please contact Lisa McDaid, the main researcher who will try to answer your questions:

School of Health Sciences
University of East Anglia,
Norwich Research Park,
Norwich,
NR4 7TJ

Mob: ***** ******
Email. ******@uea.ac.uk
Web. insert website address

You can also contact the primary supervisory, Professor Jacqueline Collier, on 01603 592064 or Jacqueline.collier.ac.uk

You are also welcome to contact the local collaborator at the research site where you were given this information leaflet:

Name
Address 1
Address 2
City
County
Postcode

Tel.
Email.

Thank you for reading this information sheet.

What if I want to talk to an advisor or counsellor?

If you are worried about how you feel or would like you would like to talk to someone about your decision, you can talk to:

- someone at the organisation where you were given this leaflet
- your GP or nurse
- your midwife or health visitor
- a contraceptive and sexual health (CASH) clinic
- a pharmacist

There are a range of specialist organisations that you can contact.

Local support organisations that are aware of the study

Pregnancy Choices Norfolk

Pregnancy Choices Norfolk provides free confidential help and support to anyone with an unplanned pregnancy or who has experienced pregnancy loss.

Tel. 0845 2300 123
Web. www.pregnancy-choices.org.uk

MAP (Mancroft Advice Project)

MAP provides information, advice, counselling and support for young people aged from 11-25 in Norfolk.

Linda Street (Sexual Health Advisor)
Tel. 01603 766994
Web. www.map.uk.net

National support

Brook

Brook is the country's largest young people's sexual health charity, providing sexual health services, support and advice to people under the age of 25.

Tel. 0808 802 1234
Text. 07717 989 023
Web. www.brook.org.uk

Teenage Pregnancies Following Abortion – Topic Guide

1. Introduction

- Introduce self and PhD

- Background and aims of the project
    - Quite a lot of young women have repeat pregnancies
    - Everybody's situation is different, but it is hoped that by talking with young women who have become pregnant again following an abortion, and thinking about what they say, I will be able to understand these experiences better and maybe help other young women.

- Interview procedure (*structure, length, how findings will be reported and feedback)*
    - It will last around one hour
    - It will start by asking you about how you learnt about sex and relationships, then move on to your own sexual experiences, before talking about the circumstances of your pregnancies and experiences of abortion
    - I would like to record the interview so that I don't forget anything. When I write-up the final report I may want to use some of the words you told me, but I will do this in a way so that nobody can recognise you from what I write

- Confidentiality
    - Anything that you say will be treated in strict confidence. However, if I am worried about your safety or the safety of others I may need to tell someone. I will always talk to you about this first, and if I do need to tell someone I will try to give you as much control over what happens as possible.

- Create a safe environment
    - Voluntary nature of involvement and right to withdraw at any time
    - No right or wrong answers
    - Free to skip questions if do not want to answer

- Opportunity for questions

- Consent (oral or written)

2. Icebreaker

- Tell me a bit about yourself

  Possible prompts: Where were you born, where do you live now, who do you live with? Working or in education? Tell me about your friends – who are they, what do you do – typical weekend/week night How would you describe yourself as a person?

3. Information about sexual behaviour and contraception

- Please can you tell me how you learnt about sex at school?
  Possible prompts: what happened? Was it useful?

- Where do you generally find out about sex and contraception?
  Possible prompts: friends, CASH Clinic, GP, family

- Do you talk openly with your friends about sex and related issues?
  Possible prompts: What about? How comfortable do you feel?

4. Sexual history

- Can you tell me about the first time that you had sex?
  Possible prompts: How long ago? What happened? Who with? Nature of relationship? How did you feel at the time?

- Were you worried about becoming pregnant?
  Possible prompts: Was contraception used? Whose responsibility? Any problems or pressures?

- Since your first time you had sex, have you had other sexual partners?
  Possible prompts: Use as starting point to explore the nature of these relationships, frequency of sex, influences on partner selection

5. The first time you became pregnant

- Thinking back to the first [second, third etc.] you became pregnant, can tell me about the circumstances in which this happened?
  Possible prompts: What happened? Which partner? Where took place? What contraception used? How did you feel?

  Focus on what else was going on in their lives at the time – where living, relationships with family and friends, specific issues or events

- How did you feel when found out you were pregnant?
  Possible prompts: Whether thought could get pregnant? Feelings about becoming a teen parent, abortion, repeat pregnancy.

- What did you do after you found out?
  Possible prompts: With whom discussed? Where visited? How did other people react?

- What did you take into account when deciding whether to go ahead with the pregnancy or to have an abortion?
  Possible prompts: How did you feel? How did you cope? Others involved in the decision?

6. First abortion experience

- Can you please take me through what happened when you had your first [second, third etc.] abortion? Tell me as much or as little as you feel comfortable sharing.
  Possible prompts: What happened? Medical or surgical? Number of weeks pregnant? How did you feel at the time? How did you feel now?

- What general support and contraceptive advice did you receive at the time of your abortion?
  Possible prompts: Was contraception discussed? At what point (before, after, both)? Did anything make the information better? Did anything make it worse?

- Did your feelings and behaviour about sex and contraception change following your abortion?
  Possible prompts: In what way? How did you feel about the changes? Does anything make it easier or harder to practice safe sex?

7. Subsequent pregnancy experiences

- Thinking back to the [second, third etc.] you became pregnant, can tell me about the circumstances in which this happened?
  Possible prompts: What happened? Which partner? Where took place? What contraception used? How did you feel?

  Focus on what else was going on in their lives at the time – where living, relationships with family and friends, specific issues or events

- How did you feel when found out you were pregnant?
  Possible prompts: Whether thought could get pregnant? Feelings about becoming a teen parent, abortion, repeat pregnancy.

- What did you do after you found out?
  Possible prompts: With whom discussed? Where visited? How did other people react?

- What did you take into account when deciding whether to go ahead with the pregnancy or to have an abortion?
  Possible prompts: How did you feel? How did you cope? Others involved in the decision?

- What are your feelings about sex and contraception now?
  Possible prompts: In what way? How did you feel? Will anything make it easier or harder to practice safe sex?

8. Improving abortion, contraception and sexual health services

- Having been through the experience of a repeat pregnancy, is there anything that you think might have you to avoid becoming pregnant again?
  Possible prompts: In what way?

- What do you think would help young women prevent further unplanned pregnancies following an abortion?

- Any final thoughts or further views would like to add?

9. About the participant

- Ethnicity
- Religion
- First three letters of postcode

Thank them for their time

Emergent themes	Original transcript	Exploratory comments and interpretive coding
Sense of regret	PT: I I was going out and getting plastered out of my head. Taking whatever drugs I could because I wanted to forget things and then I ended up doing things I didn't want to do. IV: Like? PT: Sleeping with boys. Yeah. Yeah. IV: OK erm and were you sort of using using any sort of contraception at the time?	I I was going out and getting plastered out of my head. Taking whatever drugs I could because I wanted to forget things and then I ended up doing things I didn't want to do. Wanting to forget. Drugs and alcohol use resulted in her doing things she didn't want to do. Sense of regret.
Contraception use	PT: I was on the pill. IV: And how did you sort of find out? How did you first get on that or? PT: I went on the pill after the incident with the older bloke. IV: OK.	Put on the pill after she was sexually assaulted by clinic.
Illegal sex and risk taking	PT: Yeah. I also after that incident I did actually go towards older people. I don't know why. Don't ask me why. But the men that I was fooling about with if you like were a lot older than me. I don't know what sort of triggered that in my head but that is what happened. And yeah. IV: OK.	Sleeping around with guys older than her. Not sure what triggered this. Was it the familiarity as it had been an older guy who raped her? Was it putting herself more in danger/ greater risk/ illegal element? Was she being taken advantage of further? Was she mature beyond her years?
Similar age partner	PT: Whereas [partner] is actually my age. IV: OK. PT: But everyone seems to think he's a lot older than me because of my past history. IV: Right (both laugh) PT: But he's not. He's actually a year older than me so. IV: OK. Well we'll move on to that as well. Is sort of is sort of sex and kind of contraception something that you you now kind of talk openly with about with friends and stuff or is it something kind of between you and you're partner or is it?	Current partner is similar age but seems to think he's older because of her past history. What did she mean by this
Information about contraception	PT: I talk to my friends about it on Facebook on… not even on chat. IV: Right. PT: On statuses so it's quite an open thing. I think… obviously I've got a lot of friends that have had babies IV: Yeah.	Finds it east to talk with friends now about sex and contraception. Not the awkward subject it was when she was younger. Is this because she is now a mum with kids and so the topic is no longer taboo? Friends have babies too. Use very public forums such as Facebook to talk about contraception.
Contraceptive choices **Hearsay** **Contraceptive issues** **Falling pregnant on the implant** **Miscarriage**	PT: so their like talking about getting implants and that and some of them have had problems with it. IV: Right OK. PT: I know people that have got pregnant four times on it. I know people that have constantly bled on it. And when they're telling me I haven't fallen pregnant on it this time I'm like 'I had a heavy period'. At the beginning there was no way… if someone had had a period like that and they were pregnant that would have been a miscarriage	Some using implants, some experiencing medical issues with this. Role of hearsay and if friends, family, acquaintances had problem with a contraception then this can impact on a person's contraceptive decision making more so than what they have been told by health professionals. I know people that have got pregnant four times on it. I know people that have constantly bled on it She was on the implant and had a very heavy period. Thought this was possibly a miscarriage.

	(Time 9.13) IV: Yeah.	
Disbelief of health care professional **Trust**	PT: Do you know what I mean. That was… and they were like 'Oh that can happen um um um um um' IV: So you've got	Repetitions. Doesn't believe them when they tell her she can have a very heavy period on the implant
	PT: Anything to avoid blame. IV: Right OK. So you've got quite a few friends that have the implant?	Anything to avoid blame Pointing the finger at health care professionals
Contraceptive issues **Time period contraception**	PT: Yeah and it gone wrong for them as well as me. Cause when I last had it put in they said that I fell pregnant before it got put in and I had a little girl. She was actually born on the due date. Erm but they said that I fell pregnant a week before it got put in but I didn't have sex the week before it got put in. IV: Right.	Falling pregnant on the implant. It's not just me its them. Reaffirming what happened. Yeah and it gone wrong for them as well as me. Cause when I last had it put in they said that I fell pregnant before it got put in and I had a little girl.
Time period future babies **Pregnancy knowledge** **Convincing others not at fault**	PT: I didn't have… I didn't have sex for a week and a half before it got put in because I was on my period for half of that and I don't have sex… No I didn't have sex a week and a half before I had it put in because I refused my partner. I don't want another baby yet. And then after I had it put in a couple of days later I got my period so I know I don't have sex after so they're saying that I fell pregnant. I know it takes a week to fall pregnant afterwards anyway but that just doesn't make sense. I went so long without having it... That period so I knew I couldn't get pregnant and yet I end up pregnant. Can you see where I'm coming from? IV: Yeah.	Critical sense of the time frame. Acutely aware of time frame and not having sex a week and a half before they put in the implant so couldn't' have been pregnant. Refused partner. Said I don't want another baby yet implying she is not ruling this out as a possibility in the future, just the time isn't right. Knows it takes a week to fall pregnant. Where does she know this from? Knew she couldn't be pregnant. Trying to convince me that it was not her fault that it was contraceptive failure. Protecting self from responsibility for the pregnancy. Can you see where I'm coming from.
	PT: So there's two incidences and they're both not willing to take the blame and it's happened twice. The first time (inaudible) you won't be able to tell em do you know what I mean but it's happened twice. IV: Right. Time 10.37	Happened twice and they're not willing to take the blame. Emphasis that her argument is stronger as the failure happened twice. More than coincidence.
Frustration about keeping the contraceptive implant **Lost trust in efficacy**	PT: I don't want the implant but they're telling me I gotta keep it in and feel like ugh… do you know what I mean. IV: OK. So who's telling you you've got to keep it in? PT: Well they're 'Oh you've got to keep it in you won't get pregnant'. Well what about if I do now have a termination right and then three months later I fall pregnant again. IV: Um. PT: I've then gotta do all of that again. IV: Yeah which is not… yeah quite hard… PT: Can you see where I'm coming from?	Doesn't think the implant is effective but told she has to keep it in. Urg. Demonstrates frustration with the whole process. Told got to keep it but does not trust its efficacy. Would have to have another termination if fails I've then gotta do all of that again. Terminations as hard Not easy decision-making process or experience to go through.

Health Research Authority

NRES Committee East of England - Cambridge South
The Old Chapel
Royal Standard Place
Nottingham
NG1 6FS

Telephone: 0115 8839308 (Direct Line)

03 May 2013

Ms Lisa McDaid
PhD Student
University of East Anglia (Studentship)
School of Allied Health Professionals
University of East Anglia
Norwich
NR4 7TJ

Dear Ms McDaid

Study title:	**Repeat Teenage Abortion (ReTA) Study**
REC reference:	**13/EE/0079**
IRAS project ID:	**122806**

Thank you for your correspondence of 24 April 2013, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the sub-committee.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Co-ordinator Ms Trish Wheat, nrescommittee.eastofengland-cambridgesouth@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see

"Conditions of the favourable opinion" below).

Non-NHS sites

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Covering Letter		20 February 2013
Evidence of insurance or indemnity	UEA indemnity	19 February 2013
Interview Schedules/Topic Guides	1.3	24 January 2012
Investigator CV	Lisa McDaid	24 January 2013
Investigator CV	Academic Supervisor - Jacqueline Collier	18 February 2013
Investigator CV	Academic Supervisor - Charlotte Salter	26 February 2013
Investigator CV	Academic Supervisor - - Mary Platt	25 February 2013
Other: ReTA Support if You Need it leaflet	1.1	24 January 2013
Other: Email from Catherine Schunmann regarding time given to consent		27 March 2013
Participant Consent Form: Written Consent Form	1.4	24 April 2013
Participant Consent Form: Oral Consent Form	1.2	24 April 2013
Participant Information Sheet	1.4	24 January 2013

Participant Information Sheet	1.5	24 April 2013
Protocol	1.4	24 January 2013
REC application	122806/416647/1/522	22 February 2013
Response to Request for Further Information		24 April 2013

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

13/EE/0079 Please quote this number on all correspondence

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

With the Committee's best wishes for the success of this project.

Yours sincerely

[redacted]

[redacted]
Chair

Email:nrescommittee.eastofengland-cambridgesouth@nhs.net

Enclosures: "After ethical review – guidance for researchers"

Copy to: [redacted]

ReTA Study

CONSENT FORM

Name of researcher: Lisa McDaid

		Please *initial* box
1	I confirm that I have read the information sheet (v1.7, 14.01.2014) and taken time to consider whether or not to take part in this study.	☐
2	I have been given a full explanation of the purpose of the study and what I will be expected to do.	☐
3	I have had the opportunity to ask questions and have been given satisfactory answers.	☐
4	I understand that my participation in the interview is voluntary and that I am free to withdraw from the study at any time, without having to give a reason.	☐
5	I understand that the interview will be recorded on a digital-recorder. I give permission for doing this.	☐
6	I understand that what I say during the interview is confidential, in accordance with the Data Protection Act. However, you must be aware that if you tell the interviewer something which shows that there is a significant risk to you or someone else, they may need to pass this information on. If this happens, they will discuss it with you first before anyone else is told.	☐
7	I understand that relevant sections of my medical notes or data collected for this study may be looked at by authorised people (such as sponsors, regulatory authorities or R&D audit) to check that the research is being carried out properly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty. I give permission for this.	☐
8	I agree to take part in an interview for the above study.	☐

_____	_____	_____
Name of researcher	Date	Signature
_____	_____	_____
Name of researcher	Date	Signature

Thank you very much.

1 for participant; 1 for researcher

If you are worried about how you feel or would like you would like to talk to someone, there are a range of organisations that you can contact. Various clinics and health professionals offer confidential information about sex, safer sex, contraception, pregnancy and sexually transmitted infections. You can talk to:

- your GP or nurse
- your midwife or health visitor
- a community contraceptive clinic
- a contraceptive and sexual health (CASH) clinic
- a pharmacist

The following organisations also offer information and support.

National Organisations

Brook

Brook is the country's largest young people's sexual health charity, providing sexual health services, support and advice to people under the age of 25.
Tel. 0808 802 1234
Text. 07717 989 023
Web. www.brook.org.uk

CareConfidential

CareConfidential seeks to provide and promote excellence in the area of Pregnancy Choices counselling, Post-abortion counselling and Relationships and Sex Education. CareConfidential also offers care for those with pregnancy loss and abortion-related concerns. Advisory services can be accessed through the website, an online advisor, national helpline and local affiliated Centres.
Tel. 0300 4000 999 (Helpline)
Web. www.careconfidential.com

FPA

FPA is a sexual health charity that provides straightforward information, advice and support on sexual health, sex and relationships to everyone in the UK.
Tel. 0845 1228 690
Web. www.fpa.org.uk

Relate

Relationships support for people of all ages, including counselling for individuals, couples, children and young people, families and sex therapy.
Tel. 0300 100 1234 (Information Line)
Web. www.relate.org.uk

Samaritans

Available 24 hours a day to provide confidential emotional support for people who are experiencing feelings of distress or despair.
Tel. 08457 90 90 90 (Helpline)
Email. jo@samaritans.org
Web. www.samaritans.org

Terrance Higgins Trust

The largest voluntary sector provider of information, support and advice on HIV and sexual health.
Tel. 0845 122 1200 (Helpline)
Web. www.tht.org.uk

Worth Talking About

Helpline providing information, advice and guidance for young people aged 12-18 on sexuality and sexual health..
Tel. 0800 28 29 30 (Helpline)
Web. www.nhs.uk/worthtalkingabout

Local Organisations (Norfolk)

Pregnancy Choices Norfolk

Pregnancy Choices Norfolk provides free confidential help and support to anyone with an unplanned pregnancy or who has experienced pregnancy loss.
Tel. 0845 2300 123
Web. www.pregnancy-choices.org.uk

Leeway

Leeway is a specialist domestic abuse charity supporting over adults, young people and children across Norfolk and Suffolk.
Tel. 0845 2412171
Web. www.leewaysupport.org

MAP (Mancroft Advice Project)

MAP provides information, advice, counselling and support for young people aged from 11-25 in Norfolk.
Tel. 01603 766994
Web. www.map.uk.net

The Matthew Project

The Matthew Project provides information, counselling, support, care and education for people affected by drugs and alcohol in Norfolk and Suffolk.
Tel. 0800 970 4866
Text. 07797 800966
Web. www.matthewproject.org

I need some advice

Support if you need it

ReTA Study

Who can I talk to?

Table A4: Comparison of primary studies included in review articles factors associated with subsequent teenage pregnancy

	Nelson 1990	Rigsby *et al* 1998	Meade & Ickovics 2005	Tomlinson 2005	Rowlands 2010
Pregnant and parenting mothers					
Agurcia *et al* (2001)			✓		
Atkin *et al* (1992)		✓			✓
Bennett *et al* (2006)					✓
Bull & Hogue (1998)				✓	✓
Coard *et al* (2000)			✓	✓	
Covington *et al* (1991)				✓	
Crittenden *et al* (2009)					✓
Davis (2002)					✓
Ford (1983)	✓	✓	✓		
Furstenberg (1976)	✓				
Gillmore *et al* (1997)			✓		✓
Gray *et al* (2006)				✓	
Havens *et al* (1997)			✓		
Jacoby *et al* (1999)			✓		✓
Jekel *et al* (1973)		✓			
Kalmuss & Namerow (1994)*		✓	✓		✓
Klein (1974)	✓	✓			
Knafl (1998)			✓		
Koenig & Zelnik (1982)	✓	✓	✓		
Koniak-Griffin *et al* (2002)			✓		
Linares *et al* (1992)		✓	✓	✓	
Lourie *et al* (1998)			✓		
Manlove *et al* (2000)					✓
Matsushi *et al* (1989)		✓			✓
Maynard & Rangarajan (2007)					✓
Mott (1986)		✓			
Nelson *et al* (1982)			✓		
O'Dell *et al* (1998)			✓		✓
O'Sullivan and Jacobson (1992)			✓		
Peabody (1981)	✓	✓			
Pfitzner *et al* (2003)				✓	✓
Polanczky *et al* (1994)		✓			
Polit &Kahn (1986)			✓	✓	✓
Raneri & Wiemann (2007)				✓	✓
Rubin and East (1999)			✓	✓	
Seitz & Apfel (1993)		✓			
Stevens-Simon *et al* (1986)		✓			
Stevens-Simon *et al* (1995)		✓			
Stevens-Simon *et al* (1996)		✓	✓	✓	✓
Stevens-Simon *et al* (1997)*		✓	✓		
Stevens-Simon *et al* (1998)				✓	
Stevens-Simon *et al* (1999)			✓	✓	
Stevens-Simon *et al* (2001)				✓	✓
Templeman et al (2000)			✓		✓
Thurman *et al* (2007)				✓	
Trussell & Menken (1978)	✓	✓			
Zelnik (1980)	✓	✓			
More than one birth					
Jones & Mondy (1994)				✓	
Kalmuss & Namerow (1994)*		✓	✓		✓
Mims & Biordi (2001)				✓	
Mott (1986)		✓	✓		
Stevens-Simons *et al* (1997)*		✓	✓		
More than one pregnancy (index pregnancy any outcome)					
Boardman *et al* (2006)				✓	✓
Gispert *et al* (1984)	✓	✓			✓

* Article has been included in more than one category

Excluded studies from scoping review

A. New full text articles retrieve, assessed and excused (n = 102)

1. Excluded because an editorial, commentary or research summary (n=9)

1	Coren, C. (2004). Some teenage mothers place high priority on avoiding repeat pregnancy in their early postpartum months. *Perspectives On Sexual & Reproductive Health*, *36*(1), 34-42.
2	Doskoch, P. P. (2013). Counseling, checkups linked to teenagers' postpartum method use. *Perspectives On Sexual And Reproductive Health*, *45*(2), 111-112
3	LaRusso, L. (2013). Repeat births among adolescents. *Nursing For Women's Health*, *17*(3), 181-187.
4	Madden, T. (2013). Long-acting removable contraceptives prevent teen pregnancy. *Journal of Adolescent Health*, *52*(3), 255-256.
5	Plastino, K. (2012). Commentary on "Repeat pregnancy prevention self-efficacy in adolescents: associations with provider communication, provider type, and depression". *Southern Medical Journal*, *105*(11), 598-599.
6	Rosengard, C. (2009). Confronting the intendedness of adolescent rapid repeat pregnancy. *Journal of Adolescent Health*, *44*(1), 5-6.
7	Snow, T. (2006). Pregnant pause for teenage mums. *Nursing Standard*, *20*(40), 14-15.
8	Stevens-Simon, C. C. (2001). The Second Chance Club. *Journal Of Adolescent Health*, *29*(2), 80.
9	Stevens-Simon, C. (2003). A cautionary note: letter to editor. *Journal of Adolescent Health*, *33*(5), 322.

2. Excluded because repeat of same study included in the scoping review (n=1)

10	Lewis, L. N., Doherty, D. A., Hickey, M., & Skinner, S. R. (2010). Implanon as a contraceptive choice for teenage mothers: a comparison of contraceptive choices, acceptability and repeat pregnancy. *Contraception*, *81*(5), 421-426.

3. Excluded because of study focus (mainly first-time pregnancy, intervention not reporting on factors associated with subsequent pregnancy, factors predicting contraceptive use without link to subsequent pregnancy) (n=77)

11	Akinbami, L., Cheng, T., & Kornfeld, D. (2001). A review of teen-tot programs: comprehensive clinical care for young parents and their children. *Adolescence*, *36*(142), 381-393.
12	Asheer, S., Berger, A., Meckstroth, A., Kisker, E., & Keating, B. (2014). Engaging pregnant and parenting teens: early challenges and lessons learned from the Evaluation of Adolescent Pregnancy Prevention Approaches. *The Journal of Adolescent Health: Official Publication of the*

	Society for Adolescent Medicine, *54*(3 Suppl), S84-S91.
13	Barnet, B., Liu, J., DeVoe, M., Alperovitz-Bichell, K., & Duggan, A. (2007). Home visiting for adolescent mothers: effects on parenting, maternal life course, and primary care linkage. *Annals Of Family Medicine*, *5*(3), 224-232.
14	Barnet, B., Liu, J., DeVoe, M., Duggan, A. K., Gold, M. A., & Pecukonis, E. (2009). Motivational intervention to reduce rapid subsequent births to adolescent mothers: a community-based randomized trial. *The Annals of Family Medicine*, *7*(5), 436-445.
15	Barnet, B., Rapp, T., DeVoe, M., & Mullins, C. D. (2010). Cost-effectiveness of a motivational intervention to reduce rapid repeated childbearing in high-risk adolescent mothers: a rebirth of economic and policy considerations. *Archives of Pediatrics & Adolescent Medicine*, *164*(4), 370-376.
16	Belzer, M., Sanchez, K., Olson, J., Jacobs, A. M., & Tucker, D. (2005). Advance supply of emergency contraception: a randomized trial in adolescent mothers. *Journal of Pediatric and Adolescent Gynecology*, *18*(5), 347-354.
17	Berenson, A. B. & Wiemann, C. M. (1997). Contraceptive use among adolescent mothers at 6 months postpartum. *Obstetrics & Gynecology*, *89*(6), 999-1005.
18	Birch, D. L. (1998). The adolescent parent: a fifteen year longitudinal study of school-age mothers and their children. *International Journal of Adolescent Medicine and Health*, *10*(2), 141-153.
19	Bond, L., Lavelle, K., & Lauby, J. (2002). A comparison of the risk characteristics of ever-pregnant and never-pregnant sexually active adolescents. *Journal of HIV/AIDS Prevention & Education For Adolescents & Children*, *5*(1-2), 123-137.
20	Bouris, A., Guilamo-Ramos, V., Cherry, K., Dittus, P., Michael, S., & Gloppen, K. (2012). Preventing rapid repeat births among Latina adolescents: the role of parents. *American Journal of Public Health*, *102*(10), 1842-1847.
21	Brown, H. N., Saunders, R. B., & Dick, M. J. (1999). Preventing secondary pregnancy in adolescents: a model program. *Health Care for Women International*, *20*(1), 5-15.
22	Carvajal, D., Burrell, L., Duggan, A., & Barnet, B. (2012). Repeat pregnancy prevention self-efficacy in adolescents: associations with provider communication, provider type, and depression. *Southern Medical Journal*, *105*(11), 591-597.
23	Cherniss, C., & Herzog, E. (1996). Impact of home-based family therapy on maternal and child outcomes in disadvantaged adolescent mothers. *Family Relations*, 72-79.
24	Collier, J., & Blake, H. (2006). Sexual and reproductive health in pregnant teenagers presenting for antenatal care or for termination. *Current Paediatrics*, *16*(3), 211-215.
25	Covington, D., Churchill, M., & Wright, B. (1994). Factors affecting number of prenatal care visits during second pregnancy among adolescents having rapid repeat births. *The Journal of Adolescent Health: Official Publication of The Society for Adolescent Medicine*, *15*(7), 536-542.

26	Crosby, R. A., Di Clemente, R. J., Wingood, G. M., Rose, E., & Lang, D. (2003). Correlates of continued risky sex among pregnant African American teens: implications for STD prevention. *Sexually Transmitted Diseases*, *30*(1), 57-63.
27	Crosby, R. A., DiClemente, R. J., Wingood, G. M., Harrington, K., Davies, S., Hook, E. W., & Oh, M. K. (2002). Low parental monitoring predicts subsequent pregnancy among African-American adolescent females. *Journal of Pediatric and Adolescent Gynecology*, *15*(1), 43-46.
28	Dallas, C. (2013). Rapid repeat pregnancy among unmarried, African American adolescent parent couples. *Western Journal of Nursing Research*, *35*(2), 177-192.
29	Daly, J. Z., Ziegler, R., & Goldstein, D. J. (2004). Adolescent postabortion groups: risk reduction in a school-based health clinic. *Journal of psychosocial nursing and mental health services*, *42*(10), 48-54.
30	Edwards, S. (1997). Incentives draw teenage mothers to support groups, but participation does not prevent repeat pregnancy. *Family Planning Perspectives*, *29*(4), 191-192.
31	Erickson, P. (1994). Lessons from a repeat pregnancy prevention program for Hispanic teenage mothers in East Los Angeles. *Family Planning Perspectives*, *26*(4), 174-178.
32	Fergusson, D. M., Boden, J. M., & Horwood, L. (2007). Abortion among young women and subsequent life outcomes. *Perspectives on Sexual And Reproductive Health*, *39*(1), 6-12.
33	Flynn, L. (1999). The adolescent parenting program: improving outcomes through mentorship. *Public Health Nursing*, *16*(3), 182-189.
34	Ford, K., Weglicki, L., Kershaw, T., Schram, C., Hoyer, P. J., & Jacobson, M. L. (2002). Effects of a prenatal care intervention for adolescent mothers on birth weight, repeat pregnancy, and educational outcomes at one year postpartum. *The Journal of Perinatal Education*, *11*(1), 35-38.
35	Gillmore, M. R., Butler, S. S., Lohr, M. J., & Gilchrist, L. (1992). Substance use and other factors associated with risky sexual behaviour among pregnant adolescents. *Family Planning Perspectives*, *24*(6).
36	Greer, F. M. & Levin-Epstein, J. (1998). One out of every five: teen mothers and subsequent childbearing. *Center for Law and Social Policy*, *202*, 328-5140.
37	Hallgarten, L. & Misaljevich, N. (2007) Reducing repeat teenage conceptions: a review of practice. Education for Choice. URL: https://www.brook.org.uk/attachments/reducing-repeat-teenage-conceptions-review-of-practice.pdf (accessed 17 June 2016)
38	Harrykissoon, S. D., Rickert, V. I., & Wiemann, C. M. (2002). Prevalence and patterns of intimate partner violence among adolescent mothers during the postpartum period. *Archives of Pediatrics & Adolescent Medicine*, *156*(4), 325-330.
39	Hoggart, L. & Phillips, J. (2011). Teenage pregnancies that end in abortion: what can they tell us about contraceptive risk-taking?. *The Journal of Family Planning and Reproductive Health Care/ Faculty of Family Planning & Reproductive Health Care, Royal College of Obstetricians & Gynaecologists, 37(2), 97-102.*

40	Johnston-Briggs, B. D. (2008). Effect of partner relationship on motivation to use condoms among adolescent mothers. *Journal of the National Medical Association*, *100*(8), 929-935.
41	Kan, M. L., Ashley, O., LeTourneau, K. L., Williams, J., Jones, S. B., Hampton, J., & Scott, A. (2012). The Adolescent Family Life Program: a multisite evaluation of federally funded projects serving pregnant and parenting adolescents. *American Journal of Public Health*, *102*(10), 1872-1878.
42	Kelly, L. S., Sheeder, J., & Stevens-Simon, C. (2005). Why lightning strikes twice: postpartum resumption of sexual activity during adolescence. *Journal of Pediatric and Adolescent Gynecology*, *18*(5), 327-335.
43	Kershaw, T. S., Niccolai, L. M., Ickovics, J. R., Lewis, J. B., Meade, C. S., & Ethier, K. A. (2003). Short and long-term impact of adolescent pregnancy on postpartum contraceptive use: implications for prevention of repeat pregnancy. *Journal of Adolescent Health*, *33*(5), 359-368.
44	Key, J., Barbosa, G., & Owens, V. (2001). The Second Chance Club: repeat adolescent pregnancy prevention with a school-based intervention. *Journal of Adolescent Health*, *28*(3), 167-169.
45	Key, J. D., O'Rourke, K., Judy, N., & McKinnon, S. A. (2004). Efficacy of a secondary adolescent pregnancy prevention program: an ecological study before, during and after implementation of the second chance club. *International Quarterly of Community Health Education*, *24*(3), 231-240.
46	Klerman, L. V., Baker, B. A., & Howard, G. (2003). Second births among teenage mothers: program results and statistical methods. *Journal Of Adolescent Health*, *32*(6), 452-455.
47	Koniak-Griffin, D., & Stein, J. A. (2006). Predictors of sexual risk behaviours among adolescent mothers in a human immunodeficiency virus prevention program. *Journal of Adolescent Health*, *38*(3), 297-e1.
48	Kuziel-Perri, P. & Snarey, J. (1991). Adolescent repeat pregnancies: an evaluation study of a comprehensive service program for pregnant and parenting black adolescents. *Family Relations*, 381-385.
49	Lewis, C. M., Faulkner, M., Scarborough, M., & Berkeley, B. (2012). Preventing subsequent births for low-income adolescent mothers: an exploratory investigation of mediating factors in intensive case management. *American Journal of Public Health*, *102*(10), 1862-1865.
50	Mapanga, K. G. & Andrews, C. M. (1995). The influence of family and friends' basic conditioning factors and self-care agency on unmarried teenage primipara's engagement in contraceptive practice. *Journal of Community Health Nursing*, *12*(2), 89-100.
51	Marie Stopes United Kingdom. (2014). Abortion, contraceptive uptake and use among young women. URL:https://mariestopes.org/sites/default/files/MSUK%20Contraception %20Uptake%20 research.pdf (Accessed 21st June 2016)

52	Mears, C. J., Hediger, M. L., Martin, S. S., Scholl, T. O., & Kramer, J. P. (1997). Social factors predicting postpartum choice of norplant among African-American and non-hispanic white adolescents. *Journal of Adolescent Health*, *21*(3), 167-171.
53	Meyrick, J. (2001). Repeat use of contraceptive crisis services among adolescent women. *Journal of Family Planning and Reproductive Health Care*, *27*(1), 33-36.
54	Milne, D. & Glasier, A. (2008). Preventing repeat pregnancy in adolescents. *Current Opinion in Obstetrics and Gynecology*, *20*(5), 442-446.
55	O'Rourke, K. M. & Key, J. D. (2003). Process evaluation of a repeat pregnancy prevention program for African-American adolescent mothers. *International Quarterly of Community Health Education*, *23*(3), 253-262.
56	Patchen, L., LeTourneau, K., & Berggren, E. (2013). Evaluation of an integrated services program to prevent subsequent pregnancy and birth among urban teen mothers. *Social Work in Health Care*, *52*(7), 642-655.
57	Paukku, M., Quan, J., Darney, P., & Raine, T. (2003). Adolescents' contraceptive use and pregnancy history: is there a pattern?. *Obstetrics & Gynecology*, *101*(3), 534-538.
58	Pedersen, W. (2007). Childbirth, abortion and subsequent substance use in young women: a population-based longitudinal study. *Addiction, 102*(12), 1971-1978.
59	Perrow, F. (2004). Teenagers and double buggies: preventing a second pregnancy. *RCM Midwives: The Official Journal of the Royal College of Midwives*, *7*(12), 508-509.
60	Omar, H., Fowler, A., & D'Angelo, S. (2002). Improved continuation rate of depot-medroxyprogesterone acetate in adolescent mothers. *International journal of adolescent medicine and health*, *14*(2), 149-152.
61	Omar, H. A., Fowler, A., & McClanahan, K. K. (2008). Significant reduction of repeat teen pregnancy in a comprehensive young parent program. *Journal of Pediatric and Adolescent Gynecology*, *21*(5), 283-287.
62	Quinlivan, J. A., Box, H., & Evans, S. F. (2003). Postnatal home visits in teenage mothers: a randomised controlled trial. *The Lancet*, *361*(9361), 893-900.
63	Rickert, V., Tiezzi, L., Lipshutz, J., León, J., Vaughan, R., & Westhoff, C. (2007). Depo Now: preventing unintended pregnancies among adolescents and young adults. *Journal of Adolescent Health*, *40*(1), 22-28.
64	Rose, S. B., Cooper, A. J., Baker, N. K., & Lawton, B. (2011). Attitudes toward long-acting reversible contraception among young women seeking abortion. *Journal of Women's Health*, *20*(11), 1729-1735.
65	Rotermann, M. (2007). Second or subsequent births to teenagers. *Health Reports*, *18*(1), 39-42.
66	Sadler, L. S., Swartz, M. K., Ryan-Krause, P., Seitz, V., Meadows-Oliver, M., Grey, M., & Clemmens, D. A. (2007). Promising outcomes in teen mothers enrolled in a school-based parent support program and child care center. *Journal of School Health*, *77*(3), 121-130.

67	Saunders, R. & Brown, H. (1997). Innovative collaboration to prevent repeated adolescent pregnancies. *NursingConnections*, *10*(3), 5-11.
68	Scott, A., Amodeis, N., & Hoffman, T. (2004). Preventing repeat pregnancies and other negative outcomes: among pregnant and parenting Hispanic adolescents. *Journal of Multicultural Nursing & Health (JMCNH)*, *10*(2), 32-38.
69	Scott-Jones, D. (1991). Educational levels of adolescent childbearers at first and second births. *American Journal of Education*, *99*(4), 461-480.
70	Seitz, V. & Apfel, N. H. (1993). Adolescent mothers and repeated childbearing: effects of a school-based intervention program. *American Journal of Orthopsychiatry*, *63*(4), 572.
71	Seitz, V. & Apfel, N. H. (1999). Effective interventions for adolescent mothers. *Clinical Psychology: Science and Practice*, *6*(1), 50-66.
72	Seitz, V. & Apfel, N. H. (2005). Creating effective school-based interventions for pregnant teenagers. In Peters, R. Leadbeater, B. McMahon, R. J. (Eds.) *Resilience in Children, Families, and Communities: Linking Context to Practice and Policy,* (pp. 65-82). New York: Springer US.
73	Seitz, V. Apfel, N. H., & Rosenbaum, L. K. (1991). Effects of an intervention program for pregnant adolescents: Educational outcomes at two years postpartum. *American Journal Of Community Psychology*, *19*(6), 911-930.
74	Schaffer, M. A., Jost, R., Pederson, B. J., & Lair, M. (2008). Pregnancy-free club: a strategy to prevent repeat adolescent pregnancy. *Public Health Nursing*, *25*(4), 304-311.
75	Schaffer, M. A., Goodhue, A., Stennes, K., & Lanigan, C. (2012). Evaluation of a public health nurse visiting program for pregnant and parenting teens. *Public Health Nursing*, *29*(3), 218-231.
76	Smithbattle, L., Lorenz, R., & Leander, S. (2013). Listening with care: using narrative methods to cultivate nurses' responsive relationships in a home visiting intervention with teen mothers. *Nursing Inquiry*, *20*(3), 188-198.
77	Solomon, R. & Liefeld, C. P. (1998). Effectiveness of a family support center approach to adolescent mothers: Repeat pregnancy and school drop-out rates. *Family Relations*, 139-144.
78	Stevens-Simon, C., & Kelly, L. (1998). Correlates and consequences of early removal of levonorgestrel implants among teenaged mothers. *Archives of Pediatrics & Adolescent Medicine*, *152*(9), 893-898.
79	Stevens-Simon, C., Kelly, L., Singer, D., & Cox, A. (1996). Why pregnant adolescents say they did not use contraceptives prior to conception. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *19*(1), 48-53.
80	Swedish, K. A., Rothenberg, A., Fuchs, K., & Rosenberg, G. (2010). Successful life navigation by former participants in a group for pregnant and parenting teens. *Vulnerable Children and Youth Studies*, *5*(4), 310-321.
81	Tocce, K., Sheeder, J., Python, J., & Teal, S. B. (2012). Long acting reversible contraception in postpartum adolescents: early initiation of etonogestrel implant is superior to IUDs in the

	outpatient setting. *Journal of Pediatric and Adolescent Gynecology*, *25*(1), 59-63.
82	Weston, M. R., Martins, S. L., Neustadt, A. B., & Gilliam, M. L. (2012). Factors influencing uptake of intrauterine devices among postpartum adolescents: a qualitative study. *American Journal of Obstetrics & Gynecology*, *206*(1), 40-e1.
83	Williams, E. G., & Sadler, L. S. (2001). Effects of an urban high school-based child Care center on self-selected adolescent parents and their children. *Journal of School Health*, *71*(2), 47-52.
84	Wilson, E. K., Fowler, C. I., & Koo, H. P. (2013). Postpartum contraceptive use among adolescent mothers in seven states. *Journal of Adolescent Health*, *52*(3), 278-283.
85	Wilson, E. K., Samandari, G., Koo, H. P., & Tucker, C. (2011). Adolescent mothers' postpartum contraceptive use: a qualitative study. *Perspectives on Sexual and Reproductive Health*, *43*(4), 230-237.
86	Whitaker, R., Hendry, M., Booth, A., Carter, B., Charles, J., Craine, N., Edwards, R. T., Lyons, M., Noyes, J., Pasterfield, D., Rycroft-Malone, J., & Williams, M. (2014). Intervention Now To Eliminate Repeat Unintended Pregnancy in Teenagers (INTERUPT): a systematic review of intervention effectiveness and cost-effectiveness, qualitative and realist synthesis of implementation factors and user engagement. *BMJ Open*, *4*(4), e004733.
87	Zabin, L., Sedivy, V., & Emerson, M. (1994). Subsequent risk of childbearing among adolescents with a negative pregnancy test. *Family Planning Perspectives*, *26*(5), 212-217.

4. Excluded because study population not predominantly young women under 20 (n=12)

88	Cameron, S., Glasier, A., Chen, Z., Johnstone, A., Dunlop, C., & Heller, R. (2012). Effect of contraception provided at termination of pregnancy and incidence of subsequent termination of pregnancy. *BJOG: An International Journal of Obstetrics and Gynaecology*, *119*(9), 1074-1080.
89	Cavazos-Rehg, P. A., Krauss, M. J., Spitznagel, E. L., Schootman, M., Cottler, L. B., & Bierut, L. J. (2010). Associations between multiple pregnancies and health risk behaviors among US adolescents. *Journal of Adolescent Health*, *47*(6), 600-603.
90	Church, E., Sengupta, S., & Chia, K. V. (2010). The contraceptive implant for long acting reversible contraception in patients undergoing first trimester medical termination of pregnancy. *Sexual & Reproductive Healthcare*, *1*(3), 105-109.
91	Das, S., Adegbenro, A., Ray, S., & Amu, O. (2009). Repeat abortion: facts and issues. *The Journal of Family Planning and Reproductive Health Care / Faculty Of Family Planning & Reproductive Health Care, Royal College of Obstetricians & Gynaecologists*, *35*(2), 93-95.
92	Gold, R., Connell, F., Heagerty, P., Cummings, P., Bezruchka, S., Davis, R., & Cawthon, M. (2005). Predicting time to subsequent pregnancy. *Maternal and Child Health Journal*, *9*(3), 219-228.
93	Heikinheimo, O., Gissler, M., & Suhonen, S. (2008). Age, parity, history of abortion and contraceptive choices affect the risk of repeat abortion. *Contraception*, *78*(2), 149-154.

94	Kuroki, L., Allsworth, J., Redding, C., Blume, J., & Peipert, J. (2008). Is a previous unplanned pregnancy a risk factor for a subsequent unplanned pregnancy?. *American Journal Of Obstetrics & Gynecology*, *199*(5), 517.e1-7.
95	Mentula, M. J., Niinimäki, M., Suhonen, S., Hemminki, E., Gissler, M., & Heikinheimo, O. (2010). Young age and termination of pregnancy during the second trimester are risk factors for repeat second-trimester abortion. *American Journal of Obstetrics & Gynecology*, *203*(2), 107-e1.
96	Millar, W., Wadhera, S., & Henshaw, S. (1997). Repeat abortions in Canada, 1975-1993. *Family Planning Perspectives*, *29*(1), 20-24.
97	Patchen, L., & Lanzi, R. (2013). Maternal depression and rapid subsequent pregnancy among first-time mothers. *MCN: The American Journal Of Maternal/Child Nursing*, *38*(4), 215-220.
98	Rose, S., & Lawton, B. (2012). Impact of long-acting reversible contraception on return for repeat abortion. *American Journal of Obstetrics & Gynecology*, *206*(1), 37.e1-6.
99	Westfall, J., & Kallail, K. (1995). Repeat abortion and use of primary care health services. *Family Planning Perspectives*, *27*(4), 162-165.

5. Excluded because poster abstract (n=3)

100	Coard, S., Nitz, K., Parks, P., & Felice, M. (1998). Predictors of repeat pregnancy in urban adolescent mothers. *Journal of Adolescent Health*, *22*(2), 173.
101	Conroy et al (2013) Relationship Between rapid repeat pregnancy and depression in low-income, minority teen mothers. *Journal of Adolescent Health*, 52(2), S10.
102	Hammid et al (2010) You're pregnant again? Which adolescent mothers are at risk of multiple repeat pregnancies. *Journal of Adolescent Health*, 46(2). S32

B. Review articles text used to identify other studies retrieve, assessed and excused (n=5)

1	Meade, C. S. & Ickovics, J. R. (2005). Systematic review of sexual risk among pregnant and mothering teens in the USA: pregnancy as an opportunity for integrated prevention of STD and repeat pregnancy. *Social Science & Medicine*, *60*(4), 661-678.
2	Nelson, P. B. (1989). Repeat pregnancy among adolescent mothers: a review of the literature. *Journal of National Black Nurses' Association: JNBNA*, *4*(1), 28-34.
3	Rigsby, D. C., Macones, G. A., & Driscoll, D. A. (1998). Risk factors for rapid repeat pregnancy among adolescent mothers: a review of the literature. *Journal of Pediatric and Adolescent Gynecology, 11*(3), 115-126.

4	Rowlands, S. (2010). Social predictors of repeat adolescent pregnancy and focussed strategies. *Best Practice & Research. Clinical Obstetrics & Gynaecology*, *24*(5), 605-616.
5	Tomlinson, K. (2008). Repeat teenage pregnancies in mothers (ethesis). Hull, University of Hull. URL: https://hydra.hull.ac.uk/resources/hull:1597 (accessed 2nd May 2016)

C. Articles excluded from other review studies (reason given) (n=12)

Published before 1980	
1	Jekel, J. F., Klerman, L. V., & Bancroft, R. E. (1973). Factors associated with rapid subsequent pregnancies among school-age mothers. *American Journal of Public Health*, *63*(9), 769-773.
2	Klein, L. (1974). Early teenage pregnancy contraception and repeat pregnancy. *American Journal of Obstetrics & Gynecology*, *120*(2), 249-256.
3	Trussell, J., & Menken, J. (1978). Early childbearing and subsequent fertility. *Family Planning Perspectives*, 209-218
Excluded because study population not predominantly young women under 20	
4	Bennett, I., Culhane, J., McCollum, K., & Elo, I. (2006). Unintended rapid repeat pregnancy and low education status: any role for depression and contraceptive use?. *American Journal of Obstetrics & Gynecology*, *194*(3), 749-754.
Support based intervention not looking at other factors associated with subsequent pregnancy	
5	Havens, K. K., Wagstaff, D. A., Mercer, P. A., Longeway, K., & Gutman, M. (1997). Lessons learned from a mentoring program for teenage mothers. *WMJ: Official Publication of the State Medical Society of Wisconsin*, *96*(9), 38-43.
6	Nelson, K. G., Key, D., Fletcher, J. K., Kirkpatrick, E., & Feinstein, R. (1982). The teen—Tot clinic: An alternative to traditional care for infants of teenaged mothers. *Journal of Adolescent Health Care*, *3*(1), 19-23.
7	O'Sullivan, A. L., & Jacobsen, B. S. (1992). A randomized trial of a health care program for first-time adolescent mothers and their infants. *Nursing Research*, *41*(4), 210-215.
Not undertaken in a developed country	
8	Atkin, L., & Alatorre-Rico, J. (1992). Pregnant again? Psychosocial predictors of short-interval repeat pregnancy among adolescent mothers in Mexico City. *Journal of Adolescent Health*, 13(8), 700-706.
9	Linares, L., Leadbeater, B., Jaffe, L., Kato, P., & Diaz, A. (1992). Predictors of repeat pregnancy outcome among black and Puerto Rican adolescent mothers. *Journal of Developmental and Behavioral Pediatrics: JDBP*, *13*(2), 89-94.
Not specifically risk factors for subsequent teenage pregnancy	
10	Lourie, K. J., Brown, L. K., Flanagan, P., High, P., Kumar, P., & Davis, S. (1998). Teens, tots & condoms: HIV prevention and cultural identity among young adolescent mothers. *International*

	Journal of Adolescent Medicine and Health, *10*(2), 119-128.
11	Stevens-Simon, C., Wallis, J., & Allen-Davis, J. (1995). Which teen mothers choose Norplant?. *Journal of Adolescent Health*, *16*(5), 350-353.
Not published by author	
12	Knafl, K. (1998). Effectiveness of a family support center approach to adolescent mothers: repeat pregnancy and school drop-out rates. *Journal of Child and Family Nursing*, 1(2), 88.

Table X: Summary of studies exploring factors associated with subsequent pregnancies among teenage mothers

No	Authors	Country	Design	Sample	Focus	Findings	Quality
1	Adams *et al* (1990)	U.S.	Observational Prospective. Self-reported survey data at baseline (first prenatal session) and 24 month follow-up (2 time points).	43 teenage mothers, aged 12-19 years at enrolment, receiving Rochester Adolescent Maternity Project (RAMP) prenatal care. Sample drawn from larger research project (n=79), only those that were located two years after birth included. 72% Black and 28% White.	To explore predictors of successful contraceptive behaviour among adolescent mothers.	**SP by 24 months postpartum: 53%** *Not associated* (UV): contraceptive knowledge, locus of control, maternal support.	** *R* (ethnicity, study aim not specifically SP)
2	Agurcia *et al* (2001)	U.S.	Observational Prospective cohort. Self-reported survey data at baseline (following delivery) and 12 month follow-up (2 time points).	931 teenage mums aged ≤18 years at enrolment. 79% (n=735) completed 12 months follow up. 184 with a partner ≥5 years older and at least 20 years of age and 312 with a similar aged partner ± 2 years. The remaining 239 with partners aged 3-4 years older were excluded from subsequent analysis. 38% Mexican American, 33% Black, 29% White.	To explore the behavioural risks and life circumstances of adolescent mothers involved with older partners.	**SP by 12 months postpartum: 17%** *Not associated* (UV): No significant difference in subsequent pregnancy rate between teenage mothers with an older partner and those with a similar aged partner.	*** *R* (study aim not specifically SP, short follow-up for SP)
3	Barnet e*t al* 2008	U.S.	Intervention Secondary analysis of longitudinal intervention data derived from structured interviews at baseline (enrolment to the programme), 12 months and 24 months (3 time points). Intervention not successful in reducing subsequent pregnancy.	297 teenagers aged 12 – 18 years and in their third trimester of pregnancy at recruitment. 91% (n=269) completed follow-up at either 1 or 2 years postpartum. 96% Black.	To explore whether there is a link between depressive symptoms and subsequent pregnancy among teenage mothers.	**SP by 24 months postpartum: 49% ≥ 1 subsequent pregnancy and 10% >1 subsequent pregnancy** *Associated* (MV): Depression (UV) school dropout, not using condom consistently at follow-up. *Not associated* (UV): maternal age, Medicaid insurance, receiving maternity benefits, living with mother, pregnancy history (previous pregnancy, birth, abortion, or miscarriage or stillbirth), wanting another pregnancy within 2 years of index child, trying to become pregnant again, history of abuse and violence (parent physically harming child, sexual abuse), substance use in past 30 days, age difference between teen mother and baby's father.	*** *R* (ethnicity)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
4	Coard *et al* 2000	U.S.	Observational Prospective cohort study. Structured interviews at baseline (1 – 16 weeks postpartum), 12 months and 24 months postpartum (3 time points).	80 economically deprived first-time teenage mothers aged ≤17 years at enrolment. 93% Black and 7% White. 100% (n=80) completed 12 month follow-up and 83% (n=66) completed 24 month follow-up.	To explore the socio-demographic, family and health factors associated with subsequent pregnancy among urban first-time mothers.	**SP postpartum: 12 months 18%, 24 months 35%** *Associated* (UV): 12 months: not using the contraceptive implant 24 months: older maternal age, not using the contraceptive implant, inconsistent contraceptive use, history of miscarriages. *Not associated* (UV): 12 months: maternal age, educational level, school status (in school or dropout), number in household, educational level of adolescent mother, family reaction to pregnancy (supportive or not supportive), reaction of baby's father to pregnancy (supportive or not supportive), primary caretaker of baby (mother or shared), consistency of current contraceptive use, number of lifetime abortions, number of lifetime miscarriages 24 months: educational level, school status (in school or dropout), number in household, educational level of adolescent mother, family reaction to pregnancy (supportive or not supportive), reaction of baby's father to pregnancy (supportive or not supportive), primary caretaker of baby (mother or shared), number of lifetime abortions.	*** *R* (ethnicity)
5	Covington *et al* 1991	U.S.	Intervention Retrospective cohort study. Medical records of teenagers attending a community hospital.	237 adolescent mothers aged 13-17 at first birth. A 'rapid subsequent' was a pregnancy occurring within two years of first birth and before age 20 years. 28% (n=67) did not return to the clinic for any reason following the first birth. These were assumed to have no subsequent pregnancies. 50% White and 50% non-White.	To explore rapid subsequent pregnancies among adolescents in a community hospital and describe a potential intervention programme.	**SP by 24 months postpartum: 41%** *Associated (*MV*):* those receiving prenatal care from public rather than private obstetric clinic, teenagers married at first birth. *Not associated (*MV*):* ethnicity, maternal age, educational level (UV) marital status, obtaining contraceptives postpartum from clinic.	*** *R* (few teenagers UK receive private maternity care)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
6	Cox *et al* 2012	U.S.	Intervention Prospective single cohort study. Data collection at baseline (programme enrolment), 12 months and 24 months through structured interviews Setting was an urban 'teen-tot' programme for teenage parents and their children. All received intervention.	181 teenage mothers younger than 19 years at delivery. Follow-up data available for 80% (n=144). 41% Black, 39% Latina, 19% bi-racial or other.	To describe a medical home model for teenage mothers and their children, looking at repeat pregnancy and psychosocial variables.	**SP postpartum: 12 months 15% and 24 months 25%** *Associated* (MV): contraceptive use (particularly DMPA) (UV)): >18 at enrolment, received more support from own family or baby's father's family. *Not associated (MV):* ethnicity, in school or work, received welfare (Temporary Assistance for Needy Families), depressive symptoms, social support.	*** *R* (ethnicity)
7	Crittenden *et al* 2009	U.S.	Observational Prospective cohort study. Data at baseline (registration before randomisation) and 24 months postpartum. Sample drawn from existing longitudinal dataset collected over 2-years as part of a trial of the Family Nurse Partnership. Control arm only so had received no home visits.	357 predominantly pregnant young women aged 13-19 years at enrolment, first-time mothers and at least 2 demographic risk characteristics (unmarried, <12 years education and/or unemployed). 24 month follow up data available for 99% (n=354). 94% Black.	To explore the predictors of subsequent teenage pregnancy within 24 months postpartum in a sample of urban teenagers with a specific focus on mental health factors, behavioural factors and past life experiences.	**SP within 24 months postpartum (aged ≤19 years at first birth): 42%** *Associated (MV):* later age at first period (age 12-13 years), self-reported aggression. *Not associated (MV):* maternal age, household size, household income, educational level, age at first intercourse, maternal social support, maternal number of children, ethnicity, living in subsidised housing, head of household, employment status, parents living apart before age 13, lower maternal education, mental health, anxiety, depression, substance use, history of abuse, prior poor pregnancy outcomes, living in foster home before age 13, frequency of birth control use.	**** *R* (ethnicity)
8	Davis 2002	U.S.	Observational Secondary analysis of prospective cohort data from the National Longitudinal Survey of Youth, from annual interviews 1979–84.	305 unwed, teenage mothers aged <19 years. 91% (n=278) no missing data. Ethnicity breakdown not reported.	To explore subsequent pregnancies among unwed teenage mothers using Problem Behaviour Theory.	**SP by 19 years of age: 27%** *Associated (MV)*: younger age at first birth, lower educational aspirations, not living with own mother. *Not associated* (MV): ethnicity, whether Catholic, household income, self-esteem, religious attendance, school problems, theft, violence, drugs.	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
9	Falk *et al* 2006	Sweden	Observational Retrospective cohort study. Antenatal and medical records from 1996 to 2000.	250 live births to teenagers aged <20 years (first-time mothers). 12 month follow-up data available for 89% (n=223). Ethnicity breakdown not reported.	To determine whether teenage mothers are a high risk group for new unintended pregnancies.	**SP by 12 months postpartum: 25%** Of those with a new pregnancy, 36% (n=20) had a legal abortion and 64% (n=36) had a new delivery. *Not associated (UV):* No differences demonstrated between women with no new pregnancy, subsequent birth or subsequent abortion (maternal age, being a single mother, abortion prior to index pregnancy, smoking habits, occupation, whether provided contraception postpartum.	**** *R (*short follow-up for SP)
10	Ford 1983	U.S	Observational Cross-sectional. Data from National Survey of Family Growth 1976, using structured interviews.	483 teenagers aged 15 - 19 years who had their first birth within 3 years prior to interview. Ethnicity breakdown not reported.	To investigate the predictors of rapid subsequent pregnancy in a sample of urban adolescents.	**SP by 12 months postpartum: 17%** *Associate (D):* low income, marriage before first pregnancy, not using contraceptive method, age at first birth (younger for Black teenagers, older for white teenagers). *Not associate (D):* ethnicity.	*** *R* (data from 70s)
11	Gillmore *et al* 1997	U.S.	Observational Prospective cohort study. Structured interviews at baseline (during pregnancy), 6, 12 and 18 months postpartum (4 time points)	170 pregnant and parenting teenagers, aged ≤17 years at enrolment, who were experiencing their first pregnancy when they entered the study. Sample attrition at 18 months was 0% (one case omitted as respondent provided false information). 49% White, 29%, Black and 22% other.	To explore factors associated with subsequent pregnancies among adolescent mothers.	**SP postpartum: 6 months 9%, 12 months 28% and 18 months 44%** *Associate (MV)*: frequent intercourse, lower contraception use, school expulsion or suspension, highest level drug use, fighting, not living with parents, long-term boyfriend, younger age at first birth, best friend pregnant (UV): intending to become pregnant again, minor delinquency. *Not associated* (UV): ethnicity, father's education, mother's education, parents on welfare, mother's and father's job classification, number of months breast feeding, whether in school, tobacco use, alcohol use, satisfaction partner relationship, child rearing experience, siblings pregnant/made someone pregnant, best friend given birth, boyfriend sold drugs, boyfriend used drugs, closeness to family, arguments with parents, maternal support.	*** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
12	Gray *et al* 2006	U.S.	Intervention Secondary analysis of intervention data from a three arm RCT study (excluded those young women who did not receive home visits). Clinical records maintained by nurses.	111 first-time adolescent mothers 13-19 years at enrolment who were receiving home visits by Family Nurse Partnership nurses during, and for two year after, pregnancy. 24 month follow-up data available for 80% (n=89). 54% Hispanic, 25% White, 18% Black and 3% Native American.	To determine the impact of the Nurse Family Partnership (NFP) on the rate of subsequent conceptions among teenage mothers.	**SP postpartum: 6 months 8%, by 12 months 18% and by 24 months 28%** *Associated 0-6 months postpartum (UV):* minority ethnicity, less likely to be in school/graduate, less likely to have formulated an education/career goals (short term/ long term), more likely to be married, lower reported contraceptive use. *Not associated 0-6 months postpartum (UV):* prenatal contraceptive plan, age at conception. *Associated 7-12 months postpartum (UV):* minority ethnicity, less likely to be in school/graduates, less likely to have formulated an education/career goals (short term/ long term), more likely to be married, lower reported contraceptive use. *Not associated 7-12 months postpartum (UV):* prenatal contraceptive plan, age at conception. *Associated 13-24 months postpartum (UV):* minority ethnicity, lower reported contraceptive use, less likely to have formulated a prenatal contraceptive plan. *Not associated 13-24 months postpartum (UV):* in high school/graduated, marriage, whether has formulated an education/career goals, age at conception	*** *R* (study aim not specifically SP)
13	Han *et al* 2014	U.S.	Observational Prospective cohort study. Electronic medical records review, with telephone follow-up for incomplete data. Comparisons made at 12, 24, and 36 months postpartum.	396 teenage mothers attending the Colorado Adolescent Maternity Programme (CAMP) aged 13-23 years (171 in IPI group and 225 in comparison group). 36% Black, 40% Hispanic, 18% White. Follow-up at 24 months 74% (n=294) and 36 months 59% (n=235).	To determine the cost-effectiveness of a potential programme offering immediate postpartum implant to teenage mothers.	**SP postpartum overall: 12 months 13%, 24 months 29%, 36 months 49%** SP in implant group vs control: 12 months (3% vs. 20%), 24 months (8% vs. 47%) and 36 months (18%. Vs. 84%). *Associated* (UV) (outcome): using contraceptive method other than immediate postpartum insertion of implant.	*** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
14	Katz *et al* 2011	U.S.	Intervention Randomised control trial. Information on factors associated with risk of subsequent pregnancy from baseline (shortly following delivery) and follow-up questionnaires at 12 and 24 months postpartum (3 time points). Intervention not effective in reducing subsequent pregnancy.	249 newly parenting teenagers aged 15-19 years at enrolment. 50% (n=124) assigned to intervention group (mobile phone based counselling) and 50% (n=125) assigned to usual care. 89% Black and 11% Latina.	To assess the efficacy of a mobile phone-based intervention in postponing subsequent pregnancy among teen mothers.	**SP 24 months postpartum: 34% overall (31% in the intervention group and 36% in the usual care group** *Associated* (MV): Depressive symptoms, not in school/job training, lower vocabulary (≥ 18) *Not associated* (MV): maternal age, ethnicity, previous pregnancy before index, hospital-dispensed birth control, sexual coercion in past year, not living with mother figure, mother figure is biological mother, vocabulary, moved a lot.	**** *R* (ethnicity)
15	Koniak-Griffin *et al* 2002	U.S.	Intervention Prospective randomised control trial. Data collected at baseline (entry to the programme), 6 weeks, 6 months and 12 months postpartum (4 time points). Data drawn whole sample. Intervention not effective in reducing subsequent pregnancy.	102 predominantly pregnant teenagers (no previous births) aged 14-19 years at enrolment. 64% Latina, 11% Black, 19% Non-Hispanic White and 6% Other.	To compare the effects of an intensive home visit programme vs. traditional care on the maternal outcomes of teenage mothers.	**SP by 12 months postpartum: 17%** *Not associated* (UV): marriage, education (being in school or dropped out) or living with partner.	*** *R (*short follow-up for SP, study aim not specifically SP)
16	Lewis *et al* 2010	Australia	Observational Prospective cohort study. Questionnaires administered at baseline (before birth or within 6 days after), 6 weeks postpartum and then 3 monthly intervals for 24 month follow-up (9 time points).	147 first-time teenage mothers aged ≤18 years at enrolment. 74% (n=109) completed 24 month follow-up. 18% Indigenous Australian.	To look at the determinants of pregnancy among first-time teenage mothers and resumption of sexual activity after birth.	**SP by 24 months postpartum: 33%** *Associated (*MV*):* not using LARC, being sexually active for more than 3 months postpartum, intending to become pregnant postpartum, being an Indigenous Australian (UV) unemployed 12 months postpartum, low self-esteem, living with birth father 12 months postpartum, no contraceptive switches within 24 months. Not associated(UV): maternal age, age at first sexual intercourse, low socioeconomic status, age-appropriate education level,	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						returning to school 12 months postpartum, low self-efficacy, depression, anxiety, stress, abnormal family function, relationship with birth father, living with birth father baseline, never used contraception, not using contraception at first conception, smoking, alcohol use, marijuana use.	
17	Matsuhasi *et al* 1989	U.S.	Observational Case control study. Structured interview at first prenatal visit.	150 teenagers aged 12-19 years at interview. 69% (n=104) were pregnant for the first time and 31% (n=46) were pregnant for the second time or more. 41% Black, 29% Hispanic, 23% White and 7% Other.	To assess whether teenagers who become pregnant more than once do so for different reasons to those who become pregnant for the first time.	**SP postpartum ≤19 years: 30%** *Associated (*UV*):* want to have a baby, less likely to be in education or employment, less likely to be living with both parents, more likely to be living with other relatives, father of baby more likely to be 21 older. *Not associated (*UV*):* ethnicity, size of family, ordinal position, marital status, reasons for baby (contraceptive failure, drug and/or alcohol use, to escape from home).	*** *RR*
18	Maynard and Rangarajan 1994	U.S.	Intervention Experimental-design evaluation of an intervention in which young mothers were assigned to either receive regular or enhanced support services.	3,412 first-time teenage mothers aged ≤20 years at enrolment (88% of the original RCT sample completed follow-up at least until 23 months). Of these 50% (n=1,691) received regular services and 50% (n=1,721) received enhanced services. 76% Black, 16% Hispanic and 7% White.	To explore contraceptive use and subsequent pregnancies among welfare-dependent teenage mothers.	**SP by on average 29 months postpartum: 64%** Of these, 21% had had two or more SP. *Associated (*MV*):* grew up in a household receiving welfare at least half the time, not living with employed mother, has a health problem, low reading grade, having other children, not having a high school diploma or GED certificate, time since pregnancy outcome. *Not associated (*MV*):* Maternal age, ethnicity, younger age when first had sex, younger age when first used contraception, growing up in single parent household, teenagers' mother being a teenage parent, teenagers' mother having a high school diploma, frequency sees child's father, having a low-birth-weight baby, English proficiency, ever dropped out of school, ever in employment, contraceptive	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						method. Few determinants were linked with subsequent pregnancy outcome. However, those teenagers with low basic skills were significantly less likely to have an abortion than those with higher skills. Those with previous employment history were less likely to give birth than those with no employment history. Those seeking an abortion were also more likely to indicate that they were using an effective contraception method at the beginning of the study.	
19	O'Dell *et al* 1998	U.S.	Observational Retrospective cohort study. Telephone interview at 12-18 months postpartum and medical record review.	161 teenage mothers aged ≤19 years at enrolment who chose to take depot medroxyprogesterone acetate (LARC) (111) or oral contraceptives (50) within six weeks of delivery. 99% Black.	To compare rates of subsequent pregnancy among teenage mothers choosing either depot medroxyprogesterone or oral contraceptives.	**SP by 15 months postpartum 16% overall. 12% for depot medroxyprogesterone and 26% for oral contraceptives** *Associated* (MV): postpartum selection of oral contraception, depot medroxyprogesterone acetate.	*** *R* (ethnicity)
20	Patchen et al 2009	U.S.	Intervention Retrospective cohort study. Teenage moghdfx enrolled on the Teen Alliance for Prepared Parenting (TAPP) programme. Systematic record review in postnatal and postpartum periods using a specified coding procedure.	329 teenage mothers enrolled onto TAPP programme, age 12 – 18 years at baseline. 232 took part in 3-year evaluation and around 60% (n=139) took part in the evaluation at least until the 2-year follow-up. A. 59% Black.	To examine the difference in mental health and trauma experiences between those teenage mothers who have a subsequent pregnancy within 24 months and those who do not.	*Associated* (UV): suicidal thoughts, physical abuse *No associated* (UV): attempted suicide, sexual abuse or rape, desire to hurt others, emotional abuse, death of a loved one.	* *R* (ethnicity)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
21	Peabody *et al* 1981	U.S.	Observational Retrospective cohort study. Structured interview.	26 first-time adolescent mothers participating in a high risk prenatal programme who had given birth to their first child <16 at enrolment and the child was no older than 36 months. 14 first-time pregnant and 12 with subsequent pregnancies. 23% White and 77% Black.	To identify social-psychological factors associated with subsequent pregnancy among teenage mothers.	*Associated (*MV*)*: difficulty remembering to use contraception, planning to engage in sexual intercourse again.	- (failed quality assessment due to small sample size for quantitative study)
22	Pfitzner *et al* 2003	U.S.	Observational Retrospective case control study of teenagers who entered the Teen Mother and Child Programme. Intake interview and medical records between 1985 and 2000.	1838 pregnant teenagers aged ≤19 years attending a teen mother and child support programme. Information not available for 35 teenagers who had a subsequent pregnancy. 75% White, 16% Hispanic and 8% Other.	To compare those teenagers who experienced a subsequent pregnancy with those who did not.	**SP before 19 years or child(ren) become 2 years old: 11%** *Associated* (UV): younger age at first birth, more likely to be Hispanic or have a Hispanic partner, previous poor pregnancy outcome (miscarriage, still birth), in a committed relationship, history of suicide gestures/attempts, significant psychiatric history, first child placed for adoption. *Not associated* (UV): father's age, difference in age between mother and father, time known father of baby, gestational age when prenatal care began, infant's birth weight, months out of school, physical abuse, sexual abuse, depression, alcohol use, tobacco use, drug use, parent a pregnant teenager, planned pregnancy, school attendance at entry, educational status at exit, relationship with father at exit, whether in receipt of medicaid.	*** *RR (*but all taking part support programme)
23	Polaneczky *et al* 1994	U.S.	Observational Prospective cohort study. Medical records and baseline data (2 weeks postpartum), follow-up visits 6 weeks postpartum and every six months thereafter, and a structured telephone	98 predominantly single, Black postpartum teenagers aged ≤17 years at enrolment receiving support from a family planning clinic. 50% (n=42) using Norplant and 50% (n=42) using oral contraception. 86% (n=84) completed follow-up.	To examine choice of Norplant among inner-city teenage mothers and incidence of STIs and subsequent pregnancy.	**SP by at least 9 months postpartum: 24%. 2% among those using Norplant and 38% among the oral-contraceptive group** *Associated* (UV): not using contraceptive implant.	**** *R* (ethnicity, not specifically looking at subsequent pregnancy)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
			interview at the end of the study (variable follow-up points).				
24	Polit and Kahn 1986	U.S.	Observational Longitudinal cohort study which aimed to evaluate an intervention for economically disadvantaged teenage mothers by comparing them with teenagers not receiving the programme. Structured interview at baseline (programme entry for participants), 12 months and 24 months (three time points).	789 economically disadvantaged teenage mothers aged ≤16 years at enrolment. 46% Black, 25% Mexican American, 18% Puerto Rican and 9% White. 86% (n=675) completed 24 month follow-up. Both groups (intervention and regular care) were included in the analysis as there were similar rates of subsequent pregnancy at 24 months.	To investigate the circumstances and consequences of early subsequent pregnancy among economically disadvantaged teenage mothers.	**SP by 24 months postpartum: 56%** *Associated (*MV): time at risk, less likely to be enrolled at school/GED at baseline, more likely to have dropped out of school, less likely to be working or be in/completed school, more likely to be receiving benefits. Variables had low explanatory power. *Not associated (*MV): ethnicity, teenagers' mothers education, teenagers' mother a teenage mother, age at first birth, ever had an abortion, number of baseline pregnancies, use of oral contraception, school grade completed, ever been in paid employment.	*** *R* (ethnicity)
25	Raneri & Wiemann 2007	U.S.	Observational Secondary analysis of longitudinal cohort data collected for a larger study of drug use among teenage mothers. Surveys completed at baseline (24 hrs following delivery), three, six, 12, 18, 24 and 48 months (7 time points). Participants that were pregnant at 24 months were sent additional surveys at 30 and 36 months.	779 first-time teenage mothers aged 12 – 18 years. 75% (n=581) completed 48 month follow-up. 30% White, 33% Black, and 37% Mexican American. 12% experienced an abortion or miscarriage prior to their first child.	To evaluate incidence of subsequent pregnancy among a multiethnic sample of teenage mothers.	**SP by 24 months postpartum: 42%** *Associated* (MV): less likely to be using LARC three months postpartum, planned to have second baby within five years, not in school three months postpartum, more than half friends also teenage mothers at delivery, not in relationship with father of first child three months postpartum, father of first child >3 years older, hit by partner within 3 months of delivery (UV) more likely to report smoking tobacco at three months, more likely to have planned first baby, reported to be less close to mother, lower family support, more limited economic resources. *Not associated* (UV): maternal age, self-esteem, depressive symptoms, alcohol/marijuana/ other drug use, abortion/ miscarriage prior to delivery, not wanting to become pregnant again, married/in a relationship with father of first child, new	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						partner, lives with male partner, partner did not want her to become pregnant again, sexually coerced since delivery, teenager's mother a teen mother, teenager's mother's education, monitoring by mother, sister a teenage mother, family support, family criticism, hit by family member, chronic verbal abuse from parents, dropped out of school prior to first pregnancy, repeated at least one grade at school, employed full or part-time, higher religiosity, ≥ half of friends are teenage mothers, ≥ half of friends dropped out of high school, experience of social stigma regarding teenage parenting, community violence, ethnicity.	
26	Rubin & East 1999	U.S.	Observational Prospective cohort. Used data from structured interviews at baseline (varying stages in pregnancy), six months and 24 months postpartum. Teenagers who had a subsequent pregnancy by 18 months postpartum were also interviewed briefly at the time (4 time points).	208 pregnant teenagers aged ≤19 years at enrolment, who had decided to carry their pregnancies to term. These teenagers were asked 'what was the reason for your pregnancy?' Those that gave the response 'wanted a baby' or 'just happened were included in the final sample (n=154). Other reasons were excluded. 'Wanted a baby' (n=75) and 'just happened' (n=79). 42% Hispanic, 31% Black, 19% White and 9% Other.	To explore the relationship between adolescent pregnancy intentions and health related behaviours before and after giving birth.	**SP by 18 months postpartum: 40%.** 37% of the 'wanted' group and 42% of the 'just happened' group *Associated* (UV): 'Just happened group' more likely to resolve their subsequent pregnancy with an abortion (75% this group compared with 30% 'wanted group. 'Wanted group' more likely to be living with father of 1st child, married to father of subsequent pregnancy, same father as previous pregnancy. *Not associated* (UV) intendedness of first pregnancy.	*** *R* (study aim not specifically at SP)
27	Schreiber *et al* 2010	U.S.	Experimental Randomised control feasibility trial. Structured interviews at baseline (following birth), 6 weeks, 3, 6 and 12 months postpartum (5 time points).	50 predominantly unmarried teenage mothers aged 14-19 years at enrolment. 76% (n=38) retained at 12 months (16 advance supply emergency contraception and 22 routine care). 94% Black and 6% Other.	A feasibility study into conducting a randomised control trial in postpartum teens to look at the effects of the advance supply of emergency	**SP by 12 months postpartum: 22% (30% in routine care vs. 13% in advance supply of emergency contraceptives)** *Associated* (D)*:* not receiving an advance supply of emergency contraception.	** *R* (short follow-up time SP, only a feasibility study)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
					contraception on preventing rapid subsequent teenage pregnancies.		
28	Sims and Luster 2002	U.S.	Intervention Randomised control trial testing a family support intervention for teenage mothers. Structured interviews at enrolment, 6 and 24 months postpartum (3 time points).	142 teenage mothers aged 13 – 19 years at enrolment, participating in a family support programme until their first born child/ren were 24 months old. 70% (n=99) took part in the 24 month follow-up interview (48 were in the home-visited group and 51 in the standard care programme). Data from both groups were combined to analyse factors associated with subsequent pregnancies and births. 64% African American, 29% European American, 3% Hispanic and 4% Bi-racial.	To assess factors associated with a subsequent pregnancy by 24 months and closely spaced birth.	**SP by 24 months was 61% overall. 58% in home visit group and 63% in standard programme group** No statistical difference between the two groups for subsequent pregnancies or subsequent births. *Associated* (MV) with subsequent pregnancy: lower external locus of control, less favourable personal resources rating (advocates ratings of problem-solving ability, self-esteem and likelihood to complete high school, and maternal support) (UV) lower maternal age, teenager's mother's lower level of education. *Not associated* (MV) with subsequent pregnancy: maternal age (UV) self-esteem, educational expectations, repeated grade, sexual abuse, depression, emotional support from family. *Associated* (MV) with subsequent birth: lower locus of control, younger age first birth, less favourable personal resources rating (advocates ratings of problem-solving ability, self-esteem and likelihood to complete high school, teen's interest in the programme, support from mother) (UV) lower self-esteem, greater score on depression scale. *Not associated* (MV) with subsequent birth: educational expectations, repeated grade, teenager's mother's education, sexual abuse.	* *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
29	Stevens-Simon *et al* 1986	U.S.	Observational Prospective cohort study. Hospital records from health maintenance visits at a young mother's clinic.	29 teenage mothers aged ≤17 years at enrollment followed for at least 6 months postpartum. Only 14 followed up over 12 months. 66% Mexican American, 27% White and 7% Black.	To explore the extent to which postpartum school participation is associated with subsequent pregnancy.	**SP by 12-24 months postpartum: 17%** (only n=14 followed up beyond 12 months) *Associated* (D)*:* young mothers who do not return to school	- (failed quality assessment due to small sample size) *R (*follow-up period short for RP)
30	Stevens-Simon *et al* 1996(a)	U.S.	Observational Prospective cohort study. Data collected at baseline (3rd trimester of index pregnancy), each health maintenance visit with additional follow-up at 12 month visit.	200 economically disadvantage pregnant teenagers aged 13 -18 years at enrolment on a teenage maternity programme. 45% White, 29% Black, 23% Hispanic and 3% Other.	To test whether teenage mothers who conceive again have more positive attitudes to childbearing than those who postpone further childbearing.	**SP by 12 months postpartum: 12%** *Associated* (MV): miscarriage, dropped out of school, reported inadequate family support during index pregnancy and less likely to be using contraceptive implant (UV): positive attitudes towards childbearing during index pregnancy, abused illicit substances, moved out of family home. *Not associated* (UV): maternal age, ethnicity, Medicaid use, gravidity, parity, past contraceptive use, depression score. Best model for predicting SP was educational status, plans for contraceptive implant use and miscarriage history.	**** *RR*
31	Stevens-Simon *et al* 1997	U.S.	Experimental Prospective randomised control trial. Peer and monetary based intervention programme to prevent subsequent pregnancy. Data collected through structured interviews at baseline (first-born child <5 months), 6, 12, 18 and 24 months (5 time points). Intervention had no effect on rate of subsequent pregnancies.	286 first-time teenage mothers aged <18 years at enrolment, whose infants were younger than 5 months. 87% (n=248) completed the final study interview. Participants were randomised to 1 of 4 intervention arms: monetary incentives and peers support, peer support only, monetary incentives only, or no intervention. 44% White, 25% Black, 29% Hispanic and 2% Other.	To explore the effect of monetary incentives and peer support groups on subsequent teenage pregnancies.	**SP by 6 months 9%, by 12 months 20%, by 18 months 29% and by 24 months 39%** *Associated* (MV): minority race/ethnicity, presence of ≥ 5 demographic or social risk factors (specifically school dropout , behind in school, older boyfriend and no contraceptive method and/or young maternal age, no plans to return to school, no future career plans, large family, not living with parents, married, poor social support, no plans for day care, depression, new boyfriend).	**** *R* (competition style RCT with arms describe as 'teams' and monetary incentive)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
32	Stevens-Simon *et al* 1998	U.S.	Observational Prospective cohort study. Structured self-administered questionnaire at baseline, 6, 12 and 18 months (4 time points).	198 predominantly unmarried, pregnant teenagers aged 13 – 18 years (first birth). All participating in a teenage-oriented maternity programme. 83% (n-165) completed 18 month follow-up. 49% White, 27% Black, 35% Hispanic and 3% Other.	To identify the link between inconsistent contraceptive use prior to conception and unsafe sexual practices after delivery among teenage mothers.	**RP by 18 months postpartum: 20%** *Associated* (MV): not being enrolled in school, citing only harder to modify reasons for not using contraceptives before index pregnancy.	**** *RR*
33	Stevens-Simon *et al* 1999	U.S.	Observational Prospective cohort study. Structured interviews at baseline (following delivery) and at 6 months intervals for 1 -2 years following delivery.	354 teenage mothers aged 13-18 years at enrolment. 87% (n=309) tracked for at least 1 year. 171 had the implant inserted immediately postpartum and 84 chose an alternative method (up to 5 time points). Participation ceased if the teenager became pregnant. 50% White, 27% Black, 22% Hispanic and 1% Other.	To assess whether the early adoption of a contraceptive implant will reduce rates of subsequent pregnancy among teenage mothers.	**SP by 12 months postpartum: 9% (1% early implant users vs. 20% other contraception)** Associated (MV): not using a contraceptive implant early on following birth. (Teenage mothers who used the implant were less likely to want another child within two years and less likely to have left postpartum ward without contraceptive plan)	**** *RR*
34	Stevens-Simon *et al* 2001	U.S	Observational Prospective cohort study. Structured survey at baseline (prenatal period), 6, 12 and 18 months (4 time points).	373 predominantly unmarried, poor pregnant teenagers aged 13 – 18 at enrolment, recruited from a prenatal clinic offering an adolescent orientated maternity programme (compliance with programme did not affect pregnancy status). 82% (n=286) completed 24 month follow-up. 41% White, 33% Black, 24% Hispanic and 2% Other.	To identify the components of a multidisciplinary adolescent orientated maternity programme to help delay subsequent pregnancies among teenage mothers.	**SP by 12 months postpartum 14% and 24 months postpartum 35%** *Associated* (MV): failure to use Norplant or Depo-Provera 6-weeks following birth, exhibiting 9 or more subsequent pregnancy risk factors (minority race or ethnicity, deprived, young maternal age, pattern of socially deviant behaviour, behaviour problems in school, large family (≥ 3 siblings), first pregnancy planned, poor pregnancy outcome, school failure or grade retention, school drop-out, no future-oriented plans, not living with parents, married or living with boyfriend, poor social support, poor family support, depression or stress, new boyfriend, fear of contraceptive side effects, no birth control or abstinence).	*** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
35	Templeman *et al* 2000	U.S.	Observational Prospective cohort study. Structured survey at baseline (before hospital discharge), with telephone follow-up at 3, 6, 9 and 12 months following index delivery (5 time points)	177 postpartum teenagers aged <18 years at enrolment. One year follow-up data available for 69% (n=122). Of these, 76 choose depot medroxyprogesterone and 46 choose oral contraceptives.44% Black, 54% White and 2% Hispanic.	To compare the occurrence of subsequent pregnancy and method continuation at 12 months postpartum between depot medroxyprogesterone and oral contraceptives.	**SP by 12 months postpartum: 11% (24% oral contraceptive users and 3% depot medroxyprogesterone users)** *Associated* (UV): not using depot medroxyprogesterone.	*** *R* (follow-up period short for SP)
36	Thurman *et al* 2007	U.S.	Observational Prospective cohort study. Structured interview at baseline (following postpartum contraceptive choice), with structured telephone interview follow-up at 3, 6, 9 and 12 months following index delivery (5 time points)	252 postpartum teenagers aged 11 – 19 years at enrolment. 74% (n=187) completed 12 months follow-up. Of these, self-selected contraception method was: 44 contraceptive patch, 106 DMPA, 37 oral contraceptives. 28% White and 72% Black.	To evaluate subsequent pregnancy within 12 months of delivery among teenagers who choose the contraceptive patch vs. oral contraceptives vs. depot medroxyprogesterone for postpartum contraception.	**SP by 12 months postpartum: 21% (30% oral contraceptive users and 14% depot medroxyprogesterone users and 32% patch users)** *Associated* (UV): not using depot medroxyprogesterone.	*** *R* (follow-up period short for SP, ethnicity)
37	Tocce *et al* 2012	U.S.	Observational Prospective cohort study. Data collected at baseline and 12 month follow-up through medical record review. Participants with incomplete data were contacted by telephone.	396 postpartum teenagers aged 13 -23 years at enrolment receiving prenatal care. 171 received immediate postpartum implant and 225 received other contraceptive methods. Information available for 85% (n=336) at 12 month follow-up. 47% Black, 42% Hispanic and 32% White.	To determine rates of subsequent pregnancy and contraceptive continuation in teenage mothers offered immediate postpartum contraceptive implants.	**SP by 6 months postpartum 6% and 12 months postpartum 13% (no pregnancies in implant group at 6 months and 10% in other contraceptives group, by 12 months 3% in implant group compared with 19% in other contraceptives group)** *Associated* (UV): not having immediate postpartum contraceptive implant.	**** *R* (follow-up period short for SP)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
38	Waggoner *et al* 2012	U.S.	Observational Prospective cohort study using data from structured face to face interview at baseline (prenatal period) and subsequent telephone interviews when the baby was around 6 and 18 months (3 time points).	227 teenage and adult mothers with no previous births. This comprised of two groups of teenagers and one group of adult women: 54 aged 14-16 years, 98 aged 17-19 years and 71 aged 22-36 years. 16% White, 62% Black and 22% Hispanic.	To develop a greater understanding of the relationship between pregnancy intentions, use of LARC and subsequent pregnancy.	**SP by 18 months postpartum: 30% among 14-16 year olds and 21% among 17-19 year olds and 16 % among adult women** *Associated* (MV): not using LARC, being aged 14-16 at first pregnancy. *Not associated* (MV): ethnicity.	** *R* (ethnicity)

Table xx: Summary of studies exploring factors associated with subsequent births among teenage mothers

No	Authors	Country	Design	Sample	Focus	Findings	Quality
39	Black *et al* 2006(b)	U.S.	Intervention Prospective randomised control trial of home based mentoring programme. Data collected through structured questionnaire interviews at baseline (following delivery), 6, 13 and 24 months (4 time points).	181 first-time, Black adolescent mothers. 149 (82%) completed 24 month follow-up.	To examine whether home-based support for teenage mothers helps to prevent second births within 2 years.	**SB by 24 months postpartum: 18% (mothers in control group 2.5 times more likely to have a second child than mothers in the intervention group)** *Associated* (MV): Older maternal age at delivery, been arrested, living with partner, living with grandmother, in relationship with father of first child, new relationship, self esteem, positive life events past year, support from infant's grandmother. *Not associated* (MV): friends have a baby, fighting, alcohol and drug use, tobacco use, stealing, jailed, >1 sexual partner, STI, dropped out of school, breastfed child, plan to have second baby next 5 years, depressed, parenting satisfaction, parenting efficacy, negative life events, maternal conflict.	*** *R* (ethnicity)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
40	Bull and Hogue 1998	U.S.	Qualitative Content analysis of focus group data.	64 focus group participants. 40 teenage mothers aged 14 – 19 years. 73% Black, 23% White and 5% Hispanic) and 24 guardians of teenage mothers. 75% Black and 25% White - only 1 male.	To explore the factors associated with subsequent childbearing among teenage mothers.	*Associated* (D): Subsequent childbearing: if there was problematic communication between parents and teenagers leading to daughters feeling alienated, if teenager preferred to complete family than finish school/enter employment, if teenager was failing academically, if the first pregnancy/parenting programme provided positive reinforcement. *Not associated* (D): subsequent unintended pregnancy: parents that assume teenagers already know about contraception.	**** *R* (ethnicity)
41	Crawford *et al* 2013	UK	Observational Data linkage study matching national maternity and abortion records with education records for teenagers in state schools in England.	520 teenager mothers aged <18 with at least two conceptions that resulted in a maternity between 1989-1990. Ethnicity breakdown not reported.	To identify individual, school and area characteristics associated with teenage conceptions and having more than one conception leading to a maternity by age 18.	*Associated (*MV*):* eligibility for free school meals, living in a more deprived area. *Not associated* (MV): academic attainment at school, individual test scores	*** *RR*
42	Jones and Mondy 1994	U.S.	Intervention Prospective intervention study. Data collected from record review in three organisations.	216 teenage mothers aged <18 years at the time of index birth. 100% Black. All low socioeconomic status. Recruited from: lifespan programme (n=37), special school programme (n=15) and comparison group (n=11). Subsequent pregnancy rates did not significantly differ between the three groups.	To describe birth patterns among three groups of teenage mothers receiving varying amounts of prenatal intervention for index birth over a 5-year period.	**SB 5 years postpartum: 73% overall. Lifespan programme 65%, special school programme 75% and control group 75%** *Associated* (UV): Early age at first birth, less likely to be a graduate.	*** *R* (ethnicity)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
43	Kalmuss and Namerow 1994	U.S.	Observational Cross-sectional. Secondary analysis of data from the National Survey of Youth 1979 – 1988.	1452 ethnically diverse teenage mothers aged ≤20 at first birth. 53% White, 29% Black and 18% Hispanic.	To explore the determinants of closely spaced (within 24 months) second births to teenage mothers.	**SB by 24 months postpartum: 24%** *Associated (*MV*):* Black or Hispanic ethnicity, deprivation for white ethnicity, less educated parents, lower educational attainment, wanted first baby, not completing at least one year of school since birth, marriage after first birth. *Not associated* (MV): not living with intact family age 14, attending church >1 time per month, gave birth <age 16, having ≥3 siblings, presence of reading materials, married at beginning but not end of subsequent interval.	**** *RR*
44	Key *et al* 2008	U.S	Intervention A prospective cohort study. Data collected from patient record and intervention contact visits (intervention group only). Young women were followed up for at least 24 months or until the age of 20 – whichever was longer.	72 pregnant/parenting female students aged <18 at enrolment in a school-based teenage pregnancy programme. 99% Black. 63 in the programme >24 months. The comparison group (n=252) were matched to the intervention group in terms of race, age, parity, and education status at enrolment.	To evaluate the effectiveness of a school-based intervention for teenage mothers and their children.	**SB by 24 months postpartum: 11% comparison group and 20% intervention group** *Not associated* (UV): contraception used, status at enrolment (pregnant or already parenting), dropped out of school/expelled	** *R* (ethnicity)
45	Manlove *et al* 2000	U.S	Observational Secondary analysis of data from the National Educational Longitudinal Study. Baseline interview in 1988 and followed at 2-year intervals until 1994.	564 teenage mothers <20 years. 33% White, 42% Black and 39% Hispanic.	To examine the predictors of second teenage births among a sample of school-age teenage mothers from the late 1980s to early 1990s.	**SB by 24 months postpartum: 27%** *Associated SB teenage years (*MV*):* attending a disadvantaged school, lower proportion enrolled in gifted class by 8th grade, younger age at first birth, not staying in school (dropping out prior to or after first birth), father helped with child care, living situation after first birth (not living with at least one parent or living with partner), lower educational achievement after first birth (not receiving a high school diploma or GED), not employed or enrolled at school	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						after birth, (UV) family structure (not living with both biological parents), not enrolled in further education. *Associated SB 24 months (*MV*):* Black ethnicity, younger age first birth, not staying in school (dropping out prior to or after first birth), father of child helped with child care, not employed or enrolled at school after first birth (UV) lower family socioeconomic status, lower perceived chances of graduating high school. *Not associated SB teenage years (*MV*):* ethnicity, family socioeconomic status, family structure, religious involvement, marital history, grandparents helped with childcare, educational and occupational aspirations after first birth, family went on welfare in last 24 months postpartum. *Not associated SB 24 months (*MV*):* family socioeconomic status, family structure, attending a disadvantaged school, school performance, religious involvement, marital history, grandparents helped with childcare, living situation after first birth, educational and occupational aspirations after first birth, family went on welfare in last 24 months postpartum.	
46	Mims & Biordi 2001	U.S.	Observational Retrospective study using a structured interview.	99 African-American teenagers aged 18 – 21 years, whose first pregnancy occurred at age 16.	To explore the relationship between communication patterns and subsequent pregnancies in African American teenagers.	**SB by age 18: 44%** *Associated* (UV): perceived barriers to mother-daughter communication, lower mother's education. *Not associated* (UV) – father-daughter communication.	** *R* (ethnicity, study aim not specifically at SP)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
47	Mott 1986	U.S.	Observational Secondary analysis of data from the National Longitudinal Survey of Work Experience of Youth in 1983.	1448 teenager mothers aged 14-22 years. 48% White, 36% Black and 16% Hispanic.	To investigate the pace and factors associated with subsequent childbearing among teenagers.	**SB by 24 months aged at first birth <16 years 26% and aged 17-18 years 22%** SB by 36 months aged <16 years 42% and 17-18 years 41%. *Associated 24 months* (MV): first birth ≤16 years, Black ethnicity, lower educational attainment, married at first birth, wanted first baby, being a Fundamentalist Protestant. *Not associated* 24 months (MV): number of siblings, attending church more than once a month, socioeconomic status (white), Catholic, living with two parents aged 14 years. *Associated 36 months* (MV): all maternal age, number of siblings, attended church more than monthly, married at first birth *Not associated* 36 months (MV): lower educational attainment, socioeconomic status (white), ethnicity, wanted first child, religion, lived with two parents aged 14 years. This paper places emphasis on ethnic differences in subsequent childbearing which are not summarised fully here.	**** *R* (age participants, some data 70s)
48	Richio *et al* 2010	U.S.	Observational Retrospective cohort study. Data from medical records from 2004 through to 2006.	899 teenagers delivering aged ≤19 years (732 had vaginal deliveries and 167 caesareans). 34% Hispanic, 44% White, 14% Black, 5% Asian, and 3% Native American.	To determine the relationship between mode of delivery in adolescent mothers and second birth within two years of a first birth.	**SB by 24 months was 16% overall. 17% for caesarean delivery and 16% for vaginal delivery** *Not associated* (UV): No difference in subsequent pregnancy rate between caesarean and vaginal deliveries. Though some young mothers had second births as early as 10.5 months which highlights young women are at risk of pregnancy almost immediately after delivery.	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
49	Salihu *et al* 2011	U.S.	Intervention Ecological study comparing trends in teenage pregnancy in one area receiving a community-based intervention and two control areas.	3,115 first-time pregnant teenagers aged <20 living in Florida 1998 -2007, and receiving REACHUP maternity services. Ethnicity of community intervention group was: 68% Black, 14% White, 11% Latino and 7% other.	To evaluate the effectiveness of a programme to reduce primary and subsequent teenage pregnancies in a disadvantaged community.	*Associate* (D): This study analysed trends in subsequent childbearing and found that while Black teenagers were 60% more likely to have a subsequent pregnancy than their White counterparts, this trend had reversed by 2007, and White teenagers were 5% more likely to have a subsequent pregnancy. For both Black and White teenagers, subsequent births increased over this time period.	*** *R* (ethnicity)
50	Sangalang *et al* 2006	U.S.	Intervention Retrospective cohort study using birth records.	1,260 first-time teenage mothers in an Adolescent Parenting Programme (APP) and 1,260 in a control group (non-APP). Analysis of subsequent pregnancy focused on young women aged 12 – 16 years at baseline. Ethnicity breakdown for this age group was not reported but for the overall sample this was 33% White, 59% Black, 3% Hispanic and 5% Other.	To compare first-time pregnant and parenting teenagers taking part in a support programme with those not taking part in the programme, looking at birth outcomes, subsequent births and tobacco use during pregnancy.	*Associated* (MV): minority ethnicity	**** *R* (ethnicity)

Table xx: Summary of studies exploring factors associated with pregnancy following any previous pregnancy outcome

No	Authors	Country	Design	Sample	Focus	Findings	Quality
51	Blumenthal *et al* 1994	U.S.	Observational Retrospective cohort study. Data drawn from medical records and follow-up telephone interview.	280 teenagers age 13 – 18 years when they either delivered their baby or terminated their pregnancy. 29% (n=78) were interviewed between 6 to 18 months following index procedure. 47% (n=37) using Norplant implant and 53% (n=41) another form of contraception including no contraception. 49% Black, 49% White and 2% Other.	To explore the contraceptive outcomes among post-partum and post-abortal teenagers.	**SP by 6 -18 months post index outcome 13% overall: 25% other contraceptive group and 0% implant group.** Subsequent pregnancy by rate by previous outcome not reported. *Associated (*UV*):* Contraceptive method other than implant, reason for contraceptive discontinuation (experiencing side effects, forgetting to use). *Not associated (*UV): ethnicity, age, length of time since index procedure.	** *R* (Short follow-up RP in some instances)

No	Authors	Country	Design	Sample	Focus	Findings	Quality
52	Boardman *et al* 2006	U.S.	Observational Cross-sectional study. Data from the 2002 National Survey of Family Growth.	1117 women aged ≤30 years at time of interview and experienced at least one pregnancy aged ≤ 19 years. First pregnancies could have ended in multiple ways: abortion, miscarriage, ectopic pregnancy, live or still birth. 180 intended subsequent, 354 untended subsequent and 583 one pregnancy only. 37% White, 28% Black, 31% Hispanic and 4% Other.	To establish potential risk factors for subsequent pregnancy in the context of pregnancy intendedness.	**SP by 24 months postpartum: 48%. SP intended 34%, SP unintended 66%** Intended or unintended SP *Associated* (D): Non White, lower socio economic status. Young women with an intended SP were less likely to terminate their first pregnancy than either those with an unintended SP or who had experienced one pregnancy only. Intended subsequent pregnancy *Associated* (MV): growing up in a single parent household, intended first pregnancy, prior poor obstetric outcome (miscarriage or still birth), partner who desired a subsequent pregnancy, history of non-voluntary first sexual experience, household with religious affiliation other than Roman Catholic. *Not associated* (MV): age at first conception, ethnicity, teenager's mother's education, whether the teenager's mother had a child ≤17, married at second conception, younger age at menarche (≤11), prior obstetric outcome (abortion vs. live birth), partner of second conception ≥4 years older. Unintended subsequent pregnancy *Associated* (MV): older age at first conception (>15), not being raised as a Roman Catholic, not married at time of second conception, partner did not intend SP, not living in two parent household as a teenager, prior poor obstetric outcome (miscarriage or stillbirth). *Not associated* (MV): ethnicity, teenager's mother's education, whether the teenager's mother had a child ≤17, younger age at	**** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						menarche (≤11), prior obstetric outcome (abortion vs. live birth), partner of second conception ≥4 years older.	
53	Gispert 1984	U.S.	Observational Retrospective case control study. Interviews once before gave birth or had an abortion and at 12 months and 24 months (3 time points).	116 pregnant adolescents aged 14-16 years when became pregnant. 58 with multiple pregnancies, matched with 58 with single pregnancies. 89% Black and 11% White.	To explore predictors of subsequent pregnancies among low-income adolescents.	**SP by 24 month from outcome: 31%** (based on main study sample where follow-up data available n=187). *Associated* (D): using contraception less regularly, negative relationship with mother, teenager's father not present in the home, marriage. (teenagers who had more than one pregnancy whose first pregnancy ended in abortion reported the highest percentage of approval but lowest use of contraceptives at follow-up)	*** *RR*
54	Jacoby *et al* 1999	U.S.	Observational Retrospective case control study using medical records.	100 pregnant teenagers (any outcome) aged 13 – 21 years. Nearly all were on very low income. Ethnicity of sample not reported.	To examine the relationship between subsequent teenage pregnancy and the experience of interpersonal violence.	**SP by 12 months 44%, 18 months 63%.** *Associated (*UV): experience of physical or sexual violence, miscarriage *Not associated (*UV): family stress, financial stress, environmental stressors, demographic variables (all unspecified). Note: teenagers who have an abortion or spontaneous abortion are likely to resume intercourse more quickly than those who delivered.	** *RR*
55	Koenig and Zelnik 1982	U.S.	Observational Cross-sectional study. Data from 1971, 1976, and 1979 structure survey. Descriptive data only.	Three probability samples of urban teenagers aged 15 – 19 years: 1979 (n=320, 71% Black and 29% White), 1976 (n=222, 60% Black and 40% White) and 1971 (n=271, 59% Black and 41% White).	To examine factors associated with subsequent pregnancies among adolescent mothers living in urban areas.	**SP by 6 months 6%, 12 months 18%, 18 months 24% and 24 months 31% (1979)** *Associated (D):* Marriage during or immediately after pregnancy. (Few Black young women, younger women and those ending their first pregnancy in	** *RR*

No	Authors	Country	Design	Sample	Focus	Findings	Quality
						abortion marry while pregnant).	
56	Zelnik *et al* 1980	U.S.	Observational Cross-sectional study. National survey of teenage women interviewed in 1971 and 1976.	In 1971, 407 teenagers aged 15-19 years (33% White and 66% Black). In 1976, 295 teenagers aged 15-19 years (47% White and 53% Black).	To explore incident of second pregnancy among pre-maritally pregnant teenagers.	**In 1971, SP by 12 months postpartum 22% and by 24 months postpartum 50%. In 1976, SP by 12 months postpartum 15% and by 24 months postpartum 30%** Associated *(D):* Black ethnicity, aged ≥16 years at outcome of first pregnancy, first pregnancy ended in birth.	*** *R (ethnicity, data from 1970s)*

Table A5: Factors associated with subsequent pregnancies among teenage mothers

Characteristic	Associated	No	Rejected	No
1. Sociodemographic				
Minority race or ethnicity	12(UV), 16(MV), 22(UV), 31(MV), 34(MV*)	5	5(MV), 6(MV), 8(MV), 10(D), 11(MV), 14(MV), 16(UV), 17(UV), 18(MV), 24(MV), 25(UV), 30(UV), 38(MV)	13
Religious beliefs			8(MV), 25(UV)	2
Maternal age				
Younger	8(MV), 11(MV), 22(UV), 28(MV), 31(MV*), 34(MV*), 38(MV)	7	5(MV), 11(UV) 14(MV), 30(UV)	4
Older	4(UV)	1	14(MV)	1
Unspecified	10(D)	1	3(UV), 9(UV), 12(UV), 16(UV), 18(MV), 24(MV), 25(UV)	7
Lower socioeconomic status	5(MV), 10(D), 18(MV), 24(MV), 25(UV), 34(MV*)	6	3(UV), 6(MV), 7(MV), 8(MV), 11(UV), 16(UV), 22(UV), 30(UV)	8
2. Sexual & reproductive behaviour				
Age at first period	7(MV)	1		
Age at first intercourse			7(MV), 16(UV), 18(MV)	**3**
Frequency of intercourse	11(MV)	1		
Continued sexual activity/planning to engage sexual activity postpartum	16(MV), 20(MV)	**2**		
First pregnancy/ baby intended	25(UV), 30(UV), 34(MV*)	3	22(UV), 25(MV), 26(UV), 30(MV)	**4**
Subsequent pregnancy desired/intended	11(MV), 16(MV), 17(UV), 25(MV)	**4**	3(UV)	1
Not wanting to become pregnant again			25(UV)	1
3. Obstetric variables				
Previous pregnancy			3(UV), 14(MV)	2
Previous pregnancy ended in miscarriage/ stillbirth	4(UV), 22(UV), 30(MV), 34(MV*)	**4**	3(UV), 7(MV), 25(UV)	3
Previous pregnancy ended in abortion	22(UV)	1	3(UV), 4 (UV), 7(MV), 9(UV), 24(MV), 25(UV)	**6**
First child placed for adopted	22(UV)	1		
Time at risk	18(MV), 24(MV)	**2**		
Having a low birth weight baby			18(MV), 22(UV)	2
Number of months breastfeeding			11(UV)	1
4. Psychosocial and health factors				
Poorer mental health (depression, anxiety, stress, negative thoughts)	3(MV), 14(MV), 20(UV), 31(MV*), 34(MV*)	**5**	6(MV), 7(MV), 16(UV), 22(UV), 25(UV), 28(UV), 30(UV)	7
Significant psychiatric history (including suicide attempts/gestures)	22(UV)	1	20(UV)	1
Socio-emotional state (lower self-efficacy, feelings of control, self-esteem)	16(UV), 28(MV)	2	1(UV), 8(MV), 16(UV), 25(UV), 28(MV)	**5**
Substance use (drug/alcohol)	11(MV), 30(UV)	2	3(UV), 7(MV), 8(MV), 16(UV), 22(UV), 25(MV)	**6**
Smoking	25(UV)	1	3(UV), 9(UV), 16(UV), 22(UV), 25(MV)	5
Aggressive behaviours	7(MV), 11(MV)	**2**	8(MV)	1
Theft, minor delinquency	11(UV)	1	8(MV)	1
Has a health problem	18(MV)	1		
Sexually abused/coerced			3(UV), 7 (MV), 14(MV), 20(UV). 22(UV), 25(UV), 28(UV)	**7**
Parent/partner verbally or physically harmed teenager	20(UV)	1	3(UV), 25(UV)	2
Non-specified abuse	25(MV)	1	7(MV), 20(UV), 22(UV)	3
Death of loved one			20(UV)	1
5. Education and employment				
Lower educational attainment	18(MV), 31 (MV*), 34(MV*)	3	4(UV), 5(MV), 7(MV), 16(UV), 22(UV), 24(MV), 25(UV)	7
Poorer vocabulary/ reading ability	18(MV)	1	14(MV)	1
School status (in school/school drop-out) + not returning to school postpartum	3(UV), 6(UV), 14(MV), 17(UV), 24(MV), 25(MV), 30(MV), 31 (MV*), 32(MV), 34(MV*)	10	4(UV), 6(MV), 15(UV), 16(UV) 18(MV), 22(UV), 25(UV), 29(UV)	8
No current or past employment history/ training	14(MV), 16(UV), 17(UV), 24(MV)	4	18(MV), 24(MV), 25(UV)	3
No future-orientated career or education plans	8(MV), 31(MV*), 34(MV*)	**3**	12(UV), 28(UV)	2
Behavioural problems in school (school expulsion/suspension)	11(MV), 34(MV*)	**2**	8(MV)	1

6. Relationships				
Married, committed relationship, live-in boyfriend	5(MV), 10(D), 11(MV), 16(UV), 22(UV), 26(UV), 29(D), 31(MV*), 34(MV*)	**9**	3(UV), 5(UV), 12(UV), 15(UV), 17(UV), 22(UV), 25(UV)	7
Getting together with new partner/ split with father first child	2 (MV), 31(MV*), 34(MV*)	**3**	25(UV)	1
Older father of baby/ boyfriend	17(UV), 25(MV), 31(MV*)	**3**	2(UV), 3(UV), 22(UV)	3
Partner did not want pregnancy			25(UV)	1
Relationship satisfaction with birth father			11(UV), 16 (UV)	2
Frequency sees child's father			18(MV)	1
Boyfriend sold/used drugs			11(UV)	1
7. Family characteristics				
Large family/ number household	31(MV*), 34(MV*)	**2**	4(UV), 7(MV), 17(UV)	3
Ordinal position			17(UV)	1
Not living with parents/ mother household	8(MV), 11(MV), 17(UV), 30(UV), 31(MV*), 34(MV*)	6	3(UV), 7(MV), 14(MV)	3
Not living with employed mother	18(MV)	1		
Growing up in a single parent household			18(MV)	1
Living in foster home when younger			7 (MV)	1
Poor family support (including maternal support/relationship)	6(UV) , 25(UV), 30(UV), 31(MV*), 34(MV*)	5	1(UV), 7(MV), 11(UV), 25 (MV), 28(UV), 30(MV)	6
Teenager's mother a teen mum			18(MV), 22(UV), 24(MV), 25(UV)	**4**
Teenager's sister a teen mum			25(UV)	1
Less educated mother/father	28(UV)	1	4(UV), 7(MV), 11(UV), 18(MV), 24(MV), 25(UV)	**6**
Mother figure biological mother			14(MV)	1
Family reaction to pregnancy			4(UV)	1
Family function/ closeness			11(UV), 16(UV)	2
Sibling pregnant/made person pregnant			11(UV)	1
8. Friends				
Best friend/ close friends pregnant/teen mothers	11(MV), 25(MV)	**2**	25(UV)	1
Friends dropped out of school			25(UV)	1
Poor social support	31(MV*), 34(MV*)	**2**	6(MV)	1
9. Maternal experience				
Childrearing experience			11(UV)	1
Single mum/ primary caregiver			4 (UV), 9(UV)	2
Social stigma teenage pregnancy			25(UV)	1
11. Contraception				
Not using LARC (implant or injection)	4(UV), 13(UV), 16(MV), 19(MV), 23(UV), 25(MV), 30 (MV), 33(MV), 34(MV), 35(UV), 36(UV), 37(UV), 38(UV)	**14**		
Not using a contraceptive method or lower/inconsistent use	3(UV), 4(UV), 6(MV), 10(D), 11(MV), 12(UV), 20 (MV), 31(MV*), 34(MV*)	9	7(MV), 16(UV), 18(MV)	3
Hospital dispensed birth control			5(UV), 9(UV), 14(MV)	3
Not using contraception first conception			16(UV)	
No postpartum contraceptive plan	12(UV)	1		
Using oral or barrier contraception			24(MV)	1
Younger age when first used contraception			18(MV)	1
Fear of contraceptive side effects	34(MV*)	1		
Harder to modify reasons for not using contraception prior to index pregnancy	31(MV)	1		
Not having an advanced supply of emergency contraception	27(D)	1		
Contraceptive switching	16(UV)	1	16(MV)	1
Contraceptive knowledge			1(UV)	1

Key: (MV) multivariate (UV) univariate (D) descriptive * in combination with other factors	9. Falk *et al* 2006	20.Patchen *et al*, 2009	31. Stevens-Simon *et al* 1997
1. Adams *et al* 1990	10. Ford 1983	21. Peabody *et al* 1982	32. Stevens-Simon *et al* 1998
2. Agurcia et al 2001	11. Gillmore *et al* 1997	22. Pfitzner *et al* 2003	33. Stevens-Simon *et al* 1999
3. Barnet *et al* 2008	12. Gray et al 2006	23. Polaneczkey *et al* 1994	34. Stevens-Simon *et al* 2001
4. Coard *et al* 2000	13. Han *el al* 2014	24. Polit & Kahn 1986	35. Templeman *et al* 2000
5. Covington *et al* 1991	14. Katz *et al* 2011	25. Raneri & Weimann 2007	36. Thurman *et al* 2007
6. Cox *et al* 2012	15. Koniak-Griffin *et al* 2002	26. Rubin and East 1999	37. Tocce *et al* 2012
7. Crittenden *et al* 2009	16. Lewis *et al* 2010	27. Schreiber et al 2009	38. Waggoner *et al* 2012
8. Davis 2002	17. Matsuhashi *et al* 1989	28. Sims and Luster 2002	
	18. Maynard &Rangarajan 1994	29. Stevens-Simon *et al* 1986	
	19. O'Dell *et al* 1998	30. Stevens-Simon *et al* 1996	

Table A6: Factors associated with subsequent childbearing among teenage mothers

Characteristic	Associated	No	Rejected	No
1. Sociodemographic				
Minority race or ethnicity	43(MV), 45(MV), 47(MV)	**3**	45(MV), 49(D), 50(MV)	3
Religious beliefs	47(MV)	1	43(MV), 45(MV), 47(MV)	**3**
Maternal age Younger Older	 28(MV), 42(UV), 43(UV), 45(MV), 47(MV) 39(MV)	 **5** 1	 43(MV)	 1
Lower socioeconomic status (including receipt of benefits)	45(UV), 47(MV)	2	41 (MV), 43(MV-white), 45(MV), 47(MV)	**5**
2. Sexual & reproductive behaviour				
First pregnancy/ baby intended	43(MV), 47(MV)	**2**		
Subsequent pregnancy desired/ intended	40(D)	1	39(MV)	1
>1 sexual partner			39(MV)	1
Sexually transmitted infection			39(MV)	1
3. Obstetric variables				
Mode of delivery			48(UV)	1
Breastfeeding			39(MV)	1
4. Psychosocial				
Poorer mental health (depression, anxiety, stress)	28(UV)	1	39(MV)	1
Socio-emotional state (lower self-efficacy, feelings of control, self-esteem)	28(MV), 39(MV)	2	28(MV)	1
Substance use (drug/alcohol/smoking)			39(MV)	1
Aggressive behaviours			39(MV)	1
Theft, minor delinquency			39(MV)	1
Arrested	39(MV)	1		
Jailed			39(MV)	1
Positive life events past year	39(MV)	1		
Negative life events past year			39(MV)	1
Sexually abused/coerced			28(MV)	1
5. Education and employment				
Lower educational attainment	40(D), 42(UV), 43(MV), 45(MV), 47(MV)	5	28(MV), 39(MV), 41 (MV)	3
School status (in school or school drop-out) including not returning to school postpartum	43(MV), 45(MV)	**2**	39(MV), 44 (UV)	1
No current or past employment history/ training	45(MV)	1		
No future-orientated career or education plans			28(MV), 45(MV)	**2**
Reading materials present in the home			43(MV)	1
6. Relationships				
Married, committed relationship, live-in boyfriend	39(MV), 43(MV), 47(MV)	3	39(MV), 43(MV), 45(MV)	3
New relationship	39(MV)	1		
7. Family characteristics				
Not living with parents/ mother household	39(MV), 45(MV)	**2**	47(MV)	1
Large family/ number household			43(MV), 47(MV)	**2**
Less educated mother/father	43(MV), 46(UV)	2	28(MV)	1
Parents separated when younger	45(UV)	1	43(MV), 45(MV)	**2**
Poor parental communication	40(D), 46(UV) mother	2	46(UV) father	1
Maternal support	39(MV)	1		
Parents assume contraceptive knowledge			40(D)	1
8. Friends				
Best/close friends pregnant/mothers			39(MV)	1
9. Maternal experience				
Parenting satisfaction/ efficacy			39(MV)	1

Maternal conflict				39(MV)	1
Father helped with childcare	45(MV)		1		
Parents helped with childcare				45(MV)	1
10. Contraception					
Not using a contraceptive method or lower/inconsistent use				44(UV)	1
Key: (MV) multivariate (UV) univariate (D) descriptive	28. Sims and Luster 2002 39. Black *et al* 2006 40. Bull and Hogue 1998 41. Crawford *et al* 2013 42.Jones and Mondy 1994	43. Kalmuss and Namerow 1994 44. Key *el al* 2008 45.Manlove *et al* 2000 46. Mims and Biordi 2001		47. Mott 1986 48.Richio *et al* 2010 49. Salihu *et al* 2011 50. Sangalang *et al* 2006	

Table A7: Factors associated with subsequent pregnancy following any previous outcome

Characteristic	Associated	No	Rejected	No
1. Sociodemographic				
Minority race or ethnicity	50 (D)	1	45(UV), 46(MV)	2
Religious beliefs	46(MV)	1		
Age outcome first pregnancy				
Younger	50(D)	1		
Older	46(MV)	1		
Unspecified			45(UV), 46(MV)	2
Lower socioeconomic status			48(UV)	1
2. Sexual & reproductive behaviour				
Age at first period			46(MV)	1
First pregnancy/ baby intended	46(MV)	1		
Obstetric variables				
Previous pregnancy ended in miscarriage/ stillbirth	46(MV), 48(UV)	1		
Previous pregnancy ended in abortion			46(MV)	1
Previous pregnancy ended in birth	50(D)	1		
Time at risk			45(UV)	1
History of abuse				
Sexually abused/coerced	46(MV), 48(UV)	1		
Relationships				
Married, committed relationship, live-in boyfriend	46(MV), 47(D), 49(D)	3	46(MV)	1
Not married at second conception	46(MV)	1		
Older father of baby/ boyfriend			46(MV)	1
Partner did not want pregnancy	46(MV)	1		
Partner desired subsequent pregnancy	46(MV)	1		
Family characteristics				
Teenager's mother a teen mum			46(MV)	1
Not living with parents/ mother household	46(MV), 47(D)	2		
Less educated mother/father			46(MV)	1
Poor family support/stress			48(UV)	1
Poor relationship with mother	47(D)	1		
Contraception				
Not using LARC (implant or injection)	45(UV)	1		
Not using a contraceptive method or lower/inconsistent use	47(D)	1		
Reason for contraceptive discontinuation	45(UV)	1		
Key: (MV) multivariate (UV) univariate (D) descriptive	45. Blumental *et al* 1994 46. Boardman *et al* 2006	47. Gispert 1984 48. Jacoby *et al* 1999	49. Koenig and Zelnik 1982 50. Zelnik *et al* 1980	

Themes	Extracts		Number
Theme 1: Pregnancies as distinctive but cumulative events			
1.1 The distinctive circumstances of each pregnancy			
	Jessica	At the very beginning on my first time yeh I was useless. I I was out all the time and it was being sick. That was my problem [with taking the contraceptive pill] […] You know things were all over the place em and this time round I was so paranoid all the time, 100% of the time.	**10**
	Megan	Me and my ex partner had split up and I'd I'd got with this boy. Er I was on the implant and I was pregnant. We're not sure if I became pregnant when I was on the implant or if I was pregnant before they put the implant in [1st pregnancy ending in abortion]. I was sexually assaulted on [date] [pregnancy following abortion].	
	Lauren	So I fell pregnant on the pill [1st pregnancy] […] Never had any problems. Never been sick. Nothing like that […] …] when I first got with him I was taking the pill. Ran out of that. Doctors. We talked about what would happen if we fell pregnant and he said he wanted a baby. I wanted a baby as well [2nd pregnancy.	
	Hollie	…don't think about it at the time because you're so in love with that you know that first feeling of being with someone and you're just so like wrapped up and everything, you don't think about things like that […]But we all make mistakes [1st pregnancy]. Yeah… it was more not thinking I was gonna become pregnant because after a year of not using anything, nothing had happened. And I really started to panic [2nd pregnancy].	
	Sophie	Erm that was with er my previous partner [1st pregnancy] […] I don't know really… I was low in iron so I was taking iron tablets and I I think they just didn't quite work with the contraceptive pill. No one told me that they might not work… He was very into drugs, very into alcohol and he was always in trouble with the police and things like that and he tried to persuade me that he wanted a kid and everything so we tried. I got pregnant and then he left me (laughs) and that was when I was seventeen [2nd pregnancy].	
	Sarah	That was in between changing pills [1st pregnancy]. And I was waiting to take my new pill and they say wait for a period don't they? And I was waiting and waiting and waiting and then I was thinking 'Surely I'll have one soon' and I just didn't. I'm guessing it was a night out and then I went home with him I'm guessing erm and then […] I was meant to be on my period but I'd only had like one on one day and that was it and I thought well surely that's just it that must just be because of my pill like maybe that's just gone a bit funny [2nd pregnancy].	
	Lucy	…I was out and I saw him in a club, kissing someone else. And this is the first time that I actually properly fell in love with someone. So I was distraught and then he was like 'Sorry, sorry, sorry' and then I kept seeing him and obviously like, things led to another cos I obviously really like him I thought 'Keep him happy' and	

Themes	Extracts		Number
		then obviously I got pregnant and I wasn't in the best mindset at the time. Yeah, yeah. Not trying but not stopping it from happening. So we were if it's gonna happen it's gonna happen, that's that's what we were going on [2nd pregnancy].	
	Hannah	Confused. Cos it… like there's noth… I didn't know how it happened. Cos last time I wasn't using protection. This time I was. *Lines 534 – 537*	
	Chloe	I was really safe at the beginning [using condoms], and making sure that it wouldn't happen, and then it got to a point where I just sort of thought, "Oh, it's not going to happen so I don't really need to worry about it [1st pregnancy]. Cos we'd had unprotected sex, and I didn't get pregnant then, then that sort of […] I wasn't getting pregnant, and I just thought, "Oh, I don't really sort of care as much like, cos I'm not getting pregnant." And then cos I thought I couldn't get pregnant, and then it sort of made me upset, and things like that, as well so [2nd pregnancy].	
	Emma	Heat of the moment; sort of it's time consuming to put one on, really, so you just, quite simply, didn't use one [1st pregnancy]. It was about three… three months later, we were trying for a baby at this point, because we wanted our baby, and I kept waiting for the month to come and I wasn't falling pregnant and I wasn't falling pregnant, and then I fell pregnant and I had my little girl [2nd pregnancy].	
1.2 Transforming the self and impact of pregnancy on subsequent behaviour			
Abortion decision-making	Jessica	For me like it was quite a while after I had this sort of thought. Erm I did think to myself it wasn't the best time because I was going through my GCSEs gonna go for collage and things like that and I did think to myself it hurt me but it was the best decision because life would be completely different [1st pregnancy] […] I mean a termination isn't something you jump for joy about. You're not thinking 'Yeah alright. Yeah termination, I'll just do that'. It's not like that. It's It's more of a realistic thing.	**10**
	Megan	I ran away from an appointment because I felt the baby move. And I was like you know 'I'm going to keep this baby […] And then I got to nineteen and a half weeks and I had abortion (crying). It was the worst thing that I've ever done. I wish I hadn't. Yeah it was my choice but I was so heavily influence by Social Services. I'd lost the battle before I'd even started. And I had… the other reason why was cause my boyfriend that I'm with now said he would dump me.	
	Lauren	He didn't know I was actually getting it done. I told him the next day. He was working on the fair so I told him and he went mental. He reckoned he was in love with me but yeah of course he was. Which was the best decision for me to do now because that bloke has now got three children by three different women.	
	Hollie	I was fifteen at the time and I was at school and it was the fact (sigh) I was young, you know. It would not be fair to bring up a child when you're *so* young and you haven't got everything that a child needs and has support from such as young mum and I just couldn't deal with it.	
	Sophie	I knew that I couldn't keep it at that age because I was still at college and all sorts so yeah… I was I was thinking about keeping it er but my partner was very violent and he pushed me around a lot so yeah […] I	

Themes	Extracts		Number
		think it wouldn't have been fair if I'd of kept them or anything like that.	
	Sarah	I think inside I knew that what I *needed* to do, I couldn't really keep it but I suppose naturally you always think 'Argh, like could I?' sort of thing. But we were so young.	
	Lucy	I knew he weren't going to be around, so I thought the best thing was to have an abortion purposively because if I was on my own and I was in my parents' house, it's a two bedroom house, it's tiny. Just wasn't gonna be appropriate for the child.	
	Hannah	Yeah neither of us were mature enough to handle it.	
	Chloe	But they said obviously it was up to me if I wanted to go through with the pregnancy or not. And I said, "I can't do it." It was too hard to […] and I just wanted to get school out the way, really.	
	Emma	That's when they told she'd got Turner's syndrome and it was a little girl, because only girls can get it. [also had other complications]	
Abortion experiences	Jessica	Erm and to be quite honest I was a bit more worse for wear body-wise so I wasn't completely with it. And then we went back home and I was like passing out being sick- things like that. There was a lot of blood. So I didn't really have enough time to think about it.	**10**
	Megan	Well before, before I went in I was there from 8.30 in the morning to 16.00 in the afternoon. My procedure only took half an hour […] It was under anaesthetic. Erm but er but when I was there I was awake the whole time I was there they could have spoke to me beforehand about counselling and stuff, they didn't offer me any of that. I wasn't allowed to eat or drink.	
	Lauren	I just took the two pills [1st abortion] Yeah but then this time was different. I gotta do (inaudible). It's just a bit like… cause technically you are giving birth to it. And whatever phase that is in or how they put it you are giving birth.	
	Hollie	Um no, it weren't nice and we got… I had to stay in overnight because it was a two day thing. Erm but my dad went home. My mum stayed in a bed next to me.	
	Sophie	Yeah medical […] I had to stay for four days so it was quite traumatic. I had complications apparently. No one actually told me anything. No one really… they just left me on my own in a room. Erm they came and check on me whenever I went to the toilet, they came and checked on me really and that was it. And they just left me in a room (sighs)…	
	Sarah	Yeah tablets put in rather than taken and then I remember I was quite sick so then I had an injection to stop me being sick erm and then just waiting for it to pass. The whole bed pan thing. I think I was trying to block it out. I didn't really…I'm I am quite in a way quite good at blocking things. I can sort of put it aside and pretend it's not me if that makes sense.	
	Lucy	It was a scrape […] my friend [Name] came with me for the operation […] And then like a couple of days later I was feeling pain, so my dad took me to the hospital and they did internal exams and it was fine. Gave	

Themes	Extracts		Number
		me pain killers so I went home and then they gave me a scan like to see if everything was alright.	
	Hannah	Well I wanted the surgical but there was a three week wait, so in the end I had the medical […] the thought of tablets going up there and it coming out naturally kind of creeps me out.	
	Chloe	Yes, and then they booked me an appointment at the hospital, and I had to go in and have an oral tablet, and then I had to come back. And then I had to go back about a week after. And er the school helped me out with that; because I'd done it all privately, I didn't want my parents to know, or anything like that. And my friend's parents came with me, and erm the school paid for my taxi, and like they made sure I was okay, and took me out of lessons, as well, and things like that, to make sure I was…	
	Emma	I went to [family planning] and said, "I can't go on with my pregnancy." They referred me to the [hospital], and then the [hospital] referred me to CASH, is it? [IV: because you were over 12 weeks?] Yes, 12 weeks, and then I've been referred here. I've had the tablet and then I've got to come back on Sunday.	
Personal and societal responses	Jessica	You sort of realise that… this sounds quite cheesy but there is some sort of connection I know it's in your body but then all of a sudden it was something that was missing, something didn't feel quite right in my body and it was sort of like 'Ooh, hold on a minute' and then I can't explain it its was just this bundle of emotions.	**10**
	Megan	The day before I had the abortion I could feel the baby move and he kicked my stomach to the point where I could see his feet , in my belly. If there was anything in my life I could undo it would be that (crying). I don't think I will ever having an abortion again.	
	Lauren	I only told two of my friend that knew. And obviously he knew but he went around telling everyone that I got pregnant while on the pill rah rah rah. He went and told everyone that I'd killed our baby. All the rest of it. Erm but a lot of them turned round and said to him… his mates turned round and said she'd not because you're a prick. So that backfired on him really. And no one blamed me for doing it. I didn't feel any guilt.	
	Hollie	I… felt a sense of relief erm and then when I got back to school, I had a week off […] I didn't turn up to work because obviously I was there and I couldn't tell them why and they got a bit funny with me. Erm obviously I was sad because I could say 'Oh you know I was there' and school they all… they knew, obviously knew and they're all shouting and it was horrible, horrible.	
	Sophie	Ugh I don't know really. It's hard to explain. It's like you've lost a part of you […] I think because once you've lost that you've kind of had that there with you for the whole time and then your thrown out in this world without it and you just kind of it's like you have to try and learn to swim without paddle if that makes sense.	
	Sarah	I can sort of put it aside and pretend it's not me if that makes sense. And just get on with it but if I thought about it I would get quite upset but actually in that like… at that time I was just like 'No it's just got to be done' type of thing and just got on with it.	
	Lucy	This girl came up to me and she was… she had a proper go at me saying that 'What you're doing is wrong, it's disgusting, you make me sick' stuff like that and I just thought 'I just wanna… I just wanna die' (becomes	

Themes	Extracts		Number
		emotional). So I had anxiety and depression and I had a boyfriend, well someone who was cheating on me all the time and I didn't really have any friends because everyone was talking about me.	
	Hannah	As horrible as it is it doesn't really bother me. That sounds really heartless but erm when I think about it it is not really anything yet so. [I] detached myself from it.	
	Chloe	I was scared. I didn't want to tell my parents, because I felt that they'd sort of be a bit disgusted of me, in a way, but I mean my mum was young when she was pregnant with me.	
	Emma	Something about it then you're not going to go through the heartache of – some people can walk away from terminations and be happy with it, and some other people struggle with that.	
Cumulative impact of pregnancy and abortion	Jessica	…I was so paranoid all the time, 100% of the time [following second abortion]. Which… no I wouldn't say it did effect me and my partner at all but it was... I think he probably found it a bit annoying. I was like no no no I didn't want it [to have penetrative sex].	**10**
	Megan	Erm but yeah that was my reason for stopping drugs because I assumed it was the drugs that had killed the baby. It kicked me in the teeth. [miscarriage not abortion]	
	Lauren	I still carried on [having sex]. Just a different pill.	
	Hollie	Erm I'd never even thought about things like that before and then it happened. I don't know… It all… it all just happened so quick and it was awful. Like that experience, I'll never forget. It's always in my head.	
	Sophie	I think it was because I felt like I didn't want to [have sex]. I didn't want to get into that situation again and I think because I didn't have closure I wasn't really ready to er yeah. I didn't trust it because it failed and I didn't want to go through it again to be honest. And how did you decide that using condoms was going to be your…I don't know. I think it just kind of happened.	
	Sarah	Put off for life (laughs). For a long time we were quite put off and weary of even attempting to I think. [We were worried] that it'd just happen again.	
	Lucy	I went on the pill after the other pregnancy. Cos I thought 'I don't want to go through this again.	
	Hannah	I got told about different contraception's. I was gonna get one but then my phone broke and I lost all the numbers to the hospital been ringing me on and I kind of just forgot about going to an… arranging an appointment. And then the big issue was I was supposed to get the coil but there was a risk of Chlamydia from some annoying boy. It was just a fling. So I couldn't get it until I'd had my results.	
	Chloe	Yeah, I wasn't really that keen on it [having sex]. Because, afterwards, I was bleeding for a while, so – and then afterwards, I just felt a bit insecure about my body and about myself, and I didn't really like the idea of it for a while. I just went off it, but I was taking my pill and everything like that as well, but I wasn't really that sort of interested in it afterwards for a while.	

Themes	Extracts		Number
	Emma	Yes, that was it. I wanted my baby and we started trying – I let my body settle down first, so a good six weeks, I started trying again, and I just didn't fall pregnant. Then it just happened, I fell pregnant, and I knew I was pregnant before I done the test.	
Theme 2: Relationships and intimacy			
2.1 Parent and family relationships			
Difficult relationships with parents	Jessica	Like I said, me and my mum didn't get on very well and erm she she would drink a lot and erm when I was younger it was a choice of having to put up with it because I was younger. But as I was older I wouldn't and erm things that happened I would retaliate back and it was just really heated it was always constant arguments and then obviously because I've got older I'm drinking so then it's even worse…	**7**
	Megan	I was sexually abused by my mum and by her husband. And it was going on even when my mum and my dad were together but it kind of made me really angry and violent person.	
	Lauren	Erm me and my mum never really got along since I've been about fourteen. We had quite a bad relationship.	
	Sophie	No, not at all (laughs). No unfortunately. She doesn't… well we don't really see eye to eye on a lot of things.	
	Lucy	I had anxiety and depression and I think my mum, my mum had has got anxiety and stuff as well and it was just a bit, it's just a bit depressing living… I just had that form my dad I didn't really want anyone else telling me how useless I was huh.	
	Chloe	We don't talk that much, we sort of... If I see her, I'll say, "Hi." We don't really have a mother-daughter bond, really. It's sort of just like a, "Hi, how are you?" sort of thing. I would prefer a better bond. Like my friends… like seeing my friends with their parents, and how they can just talk to their parents about anything and I… I could never do that with my mum […] I've not really known my dad most of my life, so I can't really talk to him about anything either. It's getting a bit easier, cause now he's act... really trying with me, and helping me out.	
	Emma	I fell out with my mum about it, my dad. I went and lived with my partner's mum for a little while.	
Parental separation	Jessica	I live with erm my mum and my step dad but I'm I may may as well say that I live with my partner because I'm I'm always with him.	**8**
	Megan	I lived with him, his girlfriend was like 'Oh you're just a scumbag. You never went to school' this kind of thing. Erm she was really malicious.	
	Lauren	My mum and dad had me together. Then my mum went and had another child with another partner and then she went and split up with him cause of domestic reasons. […] Erm my dad he obviously had me and then he got with another woman who was evil beyond evil.	
	Sophie	My mum and stepdad live quite close. Erm my dad lives down in [area] so quite far away.	

Themes	Extracts		Number
	Sarah	[IV:Have your parents been separated a long time or?] No since, Jan January February time.	
	Hannah	Erm my dad lives in [country]. It's just me and my mum down here.	
	Chloe	Er her and her boyfriend had an argument, and she's the type of person that'll take it out on everyone else. So, and she just sort of told us to leave, really, and said erm she didn't want us there, and she couldn't afford to keep us there without her partner there, so we just moved out that night, when she asked us to leave.	
	Emma	My step dad is my dad, because my real dad has not been there for me at all.	
Lack of parental supervision	Jessica	I was living on my own and everything was a bit chaotic so everything was like completely out of my mind.	**6**
	Megan	[name] guest house […] Erm, I was fifteen and a half. Erm and then I got kicked out of there a few months later and then they moved me to [local area].	
	Lauren	I moved in with him when I was sixteen because I fell out with my mum and she kicked me out and told me she didn't want me back and… was a bit quick to be honest. I didn't mean to do that. I should have gone to my dad's.	
	Sophie	We were living with each other so there was space, there was you know money coming in because we both worked so I was just like 'Oh yeah this will be fine yeah'.	
	Chloe	Erm just the lady that owns the house, and then me and [boyfriend], occasionally, sort of on and off […] Mum kicked me out (Laughter). Er her and her boyfriend had an argument, and she's the type of person that'll take it out on everyone else. So, and she just sort of told us to leave, really, and said erm she didn't want us there, and she couldn't afford to keep us there without her partner there, so we just moved out that night, when she asked us to leave, so.	
	Emma	Yes, in my own time. I fell out with my mum about it, my dad. I went and lived with my partner's mum for a little while.	
Young motherhood as the norm	Lauren	My mum had me very young and then there's a nine year gap between me and my brother.	**3**
	Chloe	I didn't want to tell my parents, because I felt that they'd sort of be a bit disgusted of me, in a way, but I mean my mum was young when she was pregnant with me. She was 16 when she had me, so it was like her, but I didn't want to be as as young as that. I wanted to make sure I was out of school and I'd done my GCSEs, and things like that...	
	Emma	Yes, she fell – we were both pregnant at the same time, and I lost the baby, but she she didn't tell anyone she was pregnant, because she was scared of what people were going to say, because she was only 15 – no, she wasn't 15, she was… the baby is now 2, so she's 18, so she was 16.	

Themes	Extracts		Number
2.2 Friendships			
	Jessica	Sometimes with certain people you act in a certain way. I don't really know why but you just do. Trouble making, drinking, that sort of thing really.	**4**
	Megan	My friends were just bad ideas er… They used to put [drug] in my alcohol.	
	Sophie	They're quite older than me. They're about twenty two. Same age of my partner, twenty four, twenty two, twenty four something like that so they're settling down a bit more now.	
	Emma	Well, I don't really know how I got into it, but I got in with the wrong crowd and I was doing stuff that I shouldn't be doing, like taking certain stuff […], especially speed and cannabis really. And then obviously I was sleeping with people that I didn't really want to –	
2.3 Relationships with sexual parents			
The role of male partners	Jessica	I was very careless about the whole situation. Erm and my partner at the time already had a little boy.	**7**
	Megan	He he used me… erm he's admitted this erm he said he only stayed with me after I lost [son] because he knew I was a safe bet […]. The only reason why he got me pregnant was cause he knew he could have the baby taken off me with a click of the fingers.	
	Lauren	He reckoned he was in love with me but yeah of course he was. Which was the best decision for me to do now because that bloke has now got three children by three different women.	
	Sophie	He was very into drugs, very into alcohol and he was always in trouble with the police and things like that. And he tried to persuade me that he wanted a kid and everything. So we tried. I got pregnant and then he left me (laughs) [...] I told him and he ran off, leaving me.	
	Lucy	I was out and I saw him in a club, kissing someone else. And this is the first time that I actually properly fell in love with someone so I was distraught and then he was like 'Sorry, sorry, sorry' and then I kept seeing him and obviously like, things led to another cos I obviously really like him I thought 'Keep him happy' and then obviously I got pregnant and I wasn't in the best mindset at the time.	
	Chloe	We talked about it; if it happened, it happened. [Partner]	
	Emma	Every now and then we'd use em, but sometimes he just didn't fancy using one. I told him, "I'll probably end up falling pregnant," I said to him, "If you're not going to use one, you're not stupid, are you? I I possibly could end up pregnant." He said, "If you get pregnant we'll sort it out. If we're ready to have a baby then we'll have a baby, but if we're not we won't," and he was very supportive with that and erm. Yes, which I thought was quite strange for a youngish lad at the time.	
Ideas of love and desire in adolescence	Jessica	He was… that was around Christmas time and that was a very… that was a new exciting thing. Erm you think you're in love ohh it sounds so naff when I think about it.	**7**
	Megan	[Who did you get pregnant with?] I have no idea. I used to sleep with people just to feel comfortable and just to feel like someone loved me.	
	Lauren	But when I got with [partner] and that had a whole whole new different meaning to it. And I actually did fall	

Themes	Extracts		Number
		in love with [partner] do you know what I mean. I know what it is now.	
	Hollie	No it was regular but I just… don't think about it at the time because you're so in love with that you know that first feeling of being with someone and you're just so like wrapped up and everything, you don't think about things like that. No (laughs) no. But we all make mistakes.	
	Sophie	I think I was just being a dumb teenager. Erm I think I was 'Oh yeah he loves me, yeah let's do this'. Erm and we were currently… we were living with each other so there was space, there was you know money coming in because we both worked so I was just like 'Oh yeah this will be fine yeah'.	
	Sarah	I was probably going to my friends 'No I hate him, I hate him' and he was probably doing exactly the same and then it got to the end of the night out and just I don't know [have sex with ex-partner]	
	Lucy	We obviously, I don't know, with each other we just obviously… because he's never wanted a child before. Because like his family love me so they always talk to me and like 'We never thought he would even consider having a child'. So I obviously thought well he must really want to be with me if he's talking about having children with me and stuff but we weren't expecting it to happen, it just happened. And we were so happy.	
Rape and coercion in relationship	Megan	I moved from [area] erm my mum ex husband er sexually assaulted me and I fell pregnant.	**5**
	Lauren	I got sexually abused by an older man when I was thirteen coming on fourteen. Erm and that sent me a bit 'woohoo' in the head.	
	Sophie	He was very into drugs, very into alcohol and he was always in trouble with the police and things like that and he tried to persuade me that he wanted a kid and everything.	
	Lucy	[IV: And what about sexually was he controlling in that sense?] Yeah he was… he'd always used to tell me like I was useless and stuff like that.	
	Emma	He wants me to have a baby so I get fat again, I eat what I want cos I need it, I want the chocolate cake that's in front of me, er but he doesn't want me to go back to how I was.	
Theme 3: Bodily control and perception of pregnancy risk			
3.1 Contraception			
Contraceptive knowledge	Jessica	Sex Ed: Well the first ever lesson I had was in middle school and to be honest I don't really remember it. It was fairly graphic, which sort of baffled me at the time because we were like 'Oh, what's this'. You know so I thought that was a bit much but then by the time I've gone back home I'd forgotten all about it. Now: I'd say its more talking with friends to be honest […]I've got a few friends with implants. A few friends that are on injection. Most of them are on the pill erm and some them prefer some of the others you know. I've been er I've been taking the pill but I'm changing that to the injection.	**10**
	Megan	Sex Ed: I don't know I was too young to understand it and it just confused me more than anything. Cause that stuff was normal to me.	

Themes	Extracts		Number
		Now: I was really sure it wouldn't because erm I was on drugs when I was in [area]. So I assumed that that would stop anything from happening and because he was a heroin addict and wasn't sure if he could have children. I didn't think anything of it.	
	Lauren	Sex Ed: Well I'd sort of had one sex education class erm which wasn't very good to be honest. That was just a bunch of gig gi giggling thirteen year olds, fourteen year olds. And a stupid teacher that didn't really… it was a male teacher as well and he was really horrible so (nervously giggles). Now: I talk to my friends about it on Facebook on… not even on chat, on statuses so it's quite an open thing. I think… obviously I've got a lot of friends that have had babies so their like talking about getting implants and that and some of them have had problems with it.	
	Hollie	Sex Ed: We obviously had the sex edu education class but that's Year 6 and you don't you don't take anything seriously at that age you just think 'Ooh what they doing' you know. Now: Erm mainly when you go into the doctors you see all the billboards. […] No. I I keep stuff like that to myself. I don't like to talk about things like that (sigh).	
	Sophie	Sex Ed: Erm and we just got shown videos, never really got to ask any questions or anything like that [IV: So was that helpful in any sense?] Erm not really no (laughs) I wouldn't say very helpful. Now: I suppose I did always know about them [different contraceptive options].But I didn't know about them if you know what I mean. Like i'd never been told much about them. I knew they were there but yeah.	
	Sarah	Sex Ed: wouldn't say it was very realistic, like the video when we got to high school was just like a cartoon and it had a weird song about condoms and stuff in it. It was a bit strange. I think it made people laugh at it more than take it sort of seriously really. Now: Probably like just through friends and talking about it really […] Most people… sort of my friends have either got the implant or er I know one person with the coil and then everyone else is sort of one different types of pills and stuff.	
	Lucy	Sex Ed: I don't think anyone really pay attention because we were young and it's just a bit embarrassing intit. Everyone just being… I think someone passed out because they saw the tampon expand in the water (laughs). So I think that freaked them out a little bit but. Now: Doctors if I… yeah [IV: is it something that you talk with friends about or not really?] Sometimes. It does come up but it's not like something we talk about all the time.	
	Hannah	Sex Ed: we just learnt about putting condoms on, STIs - that kind of stuff. It was just pretty much that. Erm I think we were erm fourteen when we started getting Sex Ed. It was more jokey class for everyone. But it was… It was kind of useful. Now: Erm when I go to the clinic they'll tell me stuff.	
	Chloe	Sex Ed: Yes, and they gave us a C card, so every Wednesday at school, we could go to erm this… go to a room, just like off from the school slightly. And erm you go in, and then they tell you a bit about it, and how	

Themes	Extracts		Number
		to be safe, and everything like that, and then you get to er pick out some condoms and other bits, and have it in a bag and take it out, sort of thing. Now: I talk about it with friends, and my sister, as well, because she's got the implant.	
	Emma	Sex Ed: PT: They sat us down [parents] and give us the normal routine talk, but that was it, really. I went through quite a rough stage and I guess that's where I got most of it from anyway.. Now: PT: There's a [family planning], in Yarmouth, that we normally go to, to get our stuff, and that's where I'll be going to to get my implant put in.	
Real or perceived side effects	Jessica	…We spoke about the implant and the injection and because of how my periods are and they were worse at that point as well they said it will either stop your period or it could get worse or blah blah blah and they said the way you are it you're probably going to be more heavier, you know. And I just thought to myself I don't want that. I can't be arsed to deal with that so that put me off. But now thinking about it now I'd rather have a heavier period and not be pregnant.	**8**
	Megan	I started dating this guy and we were together not too long but quite a while and I then went on the injection. Erm but then I got scared because I got told there can be… it can cause complications one of my friends said.	
	Lauren	I know people that have had the coil. That was horrible. They can feel it there do you know what I mean? Which I'm not allowed the coil anyway. I'm not allowed the hormonal one cause I'm allergic to that hormone to put in my body and I'm not allowed the titanium I think it is one cause my periods are too heavy. I've basically everything's ruled out for me. I can't have the injection cause I suffer from erm suffer from migraines. Technically I shouldn't have the implant but they've found an exception for that somehow. They've won't get me clipped which I've asked about because I'm too young.	
	Hollie	Well that was after my first termination that I had. Erm yeah so I had that in for three years and that actually caused a cyst on my right ovary so I didn't want anything that was in my body that was harm… that was affecting my body cause that caused me a lot of pain. So I decided not to have anything […] Also I put on a lot of weight with the implant as well.	
	Sarah	I went on one of the pills that you carry on taking and then I didn't get along with that at all (laughs). It made me a horrible person, I was so miserable (giggling). I think it was the hormone balance in it.	
	Hannah	Yeah I got put on the pill. I was on it for about a year but I started feeling really sick on it and getting a lot of pain […] I was going to get the coil fitted. Freaked out at the whole thought of it.The whole going up there.	
	Chloe	Yes; my sister, she's not too keen on the implant when she had it out. I think she wants to keep it out, because her periods are a bit on and off. But when I was on the pill, my periods were a bit on and off, so she doesn't know what to do afterwards, really.	
	Emma	No, I'd come off the pill completely then by then. It made me all…put on a bit of weight and spotty and stuff, so I just thought, "Oh, I'll come off it and just use condoms." [IV: How long did you use the pill for then?] A	

Themes	Extracts		Number
		couple of months.	
Switching and resuming contraception	Megan	My first on was [date]. Me and my ex partner had split up and I'd I'd got with this boy. Er I was on the implant and I was pregnant. We're not sure if I became pregnant when I was on the implant or if I was pregnant before they put the implant in.	**6**
	Lauren	…was like pull-it out method (laughs) a couple of months and then I went and got the implant put in.	
	Lucy	That was in between changing pills. And I was waiting to take my new pill and they say wait for a period don't they? And I was waiting and waiting and waiting and then I was thinking 'Surely I'll have one soon' and I just didn't.	
	Hannah	I got told about different contraception's. I was gonna get one but then my phone broke and I lost all the numbers to the hospital been ringing me on and I kind of just forgot about going to an… arranging an appointment. And then the big issue was I was supposed to get the coil but there was a risk of Chlamydia from some annoying boy. It was just a fling. So I couldn't get it until I'd had my results. And then it turned out I did have it, so I had to wait another two weeks for that to disappear after the tablets by which point I was pregnant again.	
	Chloe	I just sort of booked a doctor's appointment with my friend to go and get the pill […] I was going to try a different pill, to see if it would help me with my periods. Cos erm my periods – for some reason, they just kept lasting over a week, and it was quite uncomfortable, to be honest. I thought, "If I try a different pill…" And because my friend wanted to do it, as well, I said, "Well, I'll do it with you, then," because she was a bit shy about going on her own so I said well, "I'll come with you, and then I'll do it, as well." And then… When I went in there, obviously they ask you if you've had unprotected sex, and cos I had, they made me do a pregnancy test and […] hey asked me to do that, and then I went back in, and then they were like, "Right, you are pregnant." And I sort of… I didn't know to react, so I just sort of sat there and laughed. It didn't hit me.	
	Emma	[IV: Did you use any contraception to start off with?] No, I really, it just – it went completely out of my mind. I didn't – I don't know why I was so stupid to do it again, I just completely forgot.	
Discontinuing contraception	Megan	I seemed to get more urine infections when I would wear a condom so I decided not to wear them anymore. [IV: And did you consider taking you know using anything else?] Erm cause I was in [area] at that point erm there was never like [organisation] to help me like there was when I was in [area]. Erm, so I didn't really know much about it.	
	Lauren	Well when I first got with him I was taking the pill - ran out of that. I was suppose to go to the doctors but didn't go there and we talked about what would happen if we fell pregnant and he said he wanted a baby. I wanted a baby as well.	
	Hollie	Well I had the implant for three years […] that was after my first termination that I had. Erm yeah so I had that in for three years and that actually caused a cyst on my right ovary so I didn't want anything that was in	

Themes	Extracts		Number
		my body that was harm… that was affecting my body cause that caused me a lot of pain so I decided not to have anything.	
	Chloe	I'm not really sure. I was quite lazy, so after finishing the pills that I had, I didn't I didn't sort of want to go back and get more. Plus, because I was younger, as well, it was a bit more embarrassed and sort of I didn't feel comfortable going to my GP and talking about it.	
Contraceptive and user failure	Jessica	No I was fine with it […] 100% fine but its its not going to be any good if I'm throwing it back up.	**7**
	Megan	And then the third one did the same as the first one with my periods. And I became pregnant on the third pill.	
	Lauren	Erm but they said that I fell pregnant a week before it got put in but I didn't have sex the week before it got put in.	
	Sophie	Erm and I I don't know really… I was low in iron so I was taking iron tablets and I I think they just didn't quite work with the contraceptive pill. No one told me that they might not work… erm and then I found out I was pregnant so yeah I was a bit of a big shock.	
	Sarah	I used to take it every night rather than morning. Just because I get up at different times in the morning depending on when I'm starting so [became pregnant on the pill].	
	Hannah	Erm we'd been using protection, condoms, so I don't know how I'm pregnant but… We had been using protection. And then I found out the other day that I was.	
	Emma	I was supposed to have the implant fitted, but I was already pregnant so I couldn't. Three months after [daughter]. [IV: Okay. But did you not think about having the implant inserted earlier?] No, because I thought the pill would work. I was told that the pill is 99% accurate. I was taking it like you should do, but I still fell pregnant.	
3.2 Perceptions of pregnancy risk			
Perceived low vulnerability to pregnancy	Megan	Erm it was just a I don't like condoms, you don't like condoms, not on any contraception. We'll deal with it if anything happens. And I was really sure it wouldn't because erm I was on drugs when I was in [area]. So I assumed that that would stop anything from happening and because he was a heroin addict and wasn't sure if he could have children…	**4**
	Hollie	Didn't think anything of it and then I really thought at one point I thought… from the first time I thought I'd been punished. I can't have children again and I really thought that because it had been a while since we'd not used condoms and I thought 'Oh god, it's been like over a year' and I was still… nothing happened.	
	Hannah	Yeah I'd had sex loads before I'd ever got pregnant and then it… Well I didn't find out I was pregnant until I was six weeks. Yeah well kind cos I'd had it so much and I hadn't got pregnant, I just thought 'Oh well maybe I can't'. And you just think 'Oh maybe I can't have kids'.	
	Chloe	Yeah I just forgot about it really […] Erm well before when I first got pregnant you were like arrgh… when you first have sex you're like 'Arrgh I'm going to get pregnant'. After a couple of times you're like 'Oh	

Themes	Extracts		Number
		maybe, maybe not'. Yeah I kind of just, yeah, ignored it. Kind of thought I couldn't get pregnant.	
Fertility testing	Hollie	…it was more not thinking I was gonna become pregnant because after a year of not using anything, nothing had happened and I really started to panic.	**2**
	Chloe	Afterwards, I sort of read up online about it all and things like that, as well. Then, seeing online that there's a chance that you can't get pregnant afterwards [an abortion], and then that just kept that doubt in my head... that now, maybe actually I can't get pregnant. Then I was kind of scared that I would never get pregnant again. But I kind of did want to get pregnant, but at the same time, I didn't, and then and then I still had that doubt in my head. I've just always had that doubt in my head; that I might not be able to get pregnant so.	
3.3 Pregnancy intentions and fait			
	Jessica	Leading up to this I was very paranoid. I would not miss a pill. I couldn't cos I just freaked out. And I was not being sick. I had it in the morning instead of at night.	**10**
	Megan	No cause erm some bright spark – me – erm had the id… he agreed… so it's not just me that if I got pregnant again I could prove to Social Services that I could look after a child then it might help get [son] back.	
	Lauren	We talked about what would happen if we fell pregnant and he said he wanted a baby. I wanted a baby as well. He wanted one more than me though erm I think he maybe wanted a baby more than me because his family has all got… like his brother and sister all got babies.	
	Hollie	And I really started to panic. I thought that I I was actually being punished and that I… because I'd gone through the first termination I thought I was being punished and that I weren't ever going to be able to have children ever again and then urgh it happened again.	
	Sophie	…he tried to persuade me that he wanted a kid and everything. So we tried. I got pregnant and then he left me (laughs) and that was when I was seventeen.	
	Sarah	I think because when I'd had the gap obviously before that is how it happened before so then I thought well what's the point in stopping taking it cause I'm always going to have to start taking it again if I start seeing someone so I'd rather just carry on rather than having to wait and get… sort of stay in the routine of taking it [continued taking the pill despite relationship ending to protect herself from pregnancy.	
	Lucy	Well I don't know really. We were talking about it and we just… we didn't encourage it but we didn't stop it from happening. But we obviously, I don't know, with each other we just obviously… because he's never wanted a child before. Because like his family love me so they always talk to me and like 'We never thought he would even consider having a child'. So I obviously thought well he must really want to be with me.	
	Hannah	I didn't want to get pregnant.	
	Chloe	Because all my life I have wanted my own family, and to have a better family than I was brought up with. So so thinking that I couldn't have a family of my own was kind of upsetting, really, so…	
	Emma	At that stage I thought I would quite like a little baby, at 17. I don't know why. I think it was because what I	

Themes	Extracts		Number
		went through before, I thought, "Well maybe this is going to help me, and save me from going back to that lot again, because I'll have a little person to focus on.	
Theme 4: Services and support			
Abortion care	Jessica	To be honest erm because I'm I'm one of those people who… I mean I don't I'm not ungrateful for help but I'm the sort of people I need I need to do it on my own. Let me get through this in my own way.	10
	Megan	Erm, at the hospital they were supportive. They check on my every like five ten minutes to make sure I was OK […] This was before it had all changed. They were lovely, you know. After I'd had the procedure they turned round to me and asked 'Do you want something to eat' […] [Organisation] I was just a person. I was just a number. It was blatantly obvious what I was going in there for because the waiting room had everybody in it.	
	Lauren	Erm, well I think things need to be done a lot quicker. Dealt with a lot quicker. Yeah and they need to speed up on things.	
	Hollie	Erm I had to go in for an interview before and none of them were er English. Er I think that was why they were more abrupt like asking me questions like 'Why are you doing this?' Well I tried to explain myself and it was like right you know head in the paper and I was just like…	
	Sophie	And again there was not support. Nothing afterwards, nothing. Literally you got sent home again the same day because it was surgery, a surgical one.	
	Sarah	I'd say it was better this time […] Because I went through the is it [independent provider]? And they were really good at like offering somebody to talk to at every stage. And say like you can if you change your mind just always ring and I think because they're… you could ring them at any time in the day as well.	
	Lucy	No I just felt like it was their job, they had to do it. But I didn't think that no one really like cared. It was just like sort of like in out…	
	Hannah	Erm they rang me a few weeks… a few days afterwards to check I was alright and then. Ongoing they kept ringing me to make sure everything was fine.	
	Chloe	When I went up the second time – well, the first time, I didn't really talk to them I was just sort of... I went into the room and took the tablet, and then they sent me off. Er yhe second time, though, when I had to stay there longer, obviously, it was erm the nurses were really nice there, and all the people that come in and making sure I was okay.	
	Emma	…they gave me the tablet same day, and three days later I went to [hospital]. I had her then they gave me photos of her. People… cos what people don't understand is that a baby at four months – when you're four months pregnant people think, "Oh it's only a little baby – it's not it's a foetus." It's not.	
Contraception and follow up	Jessica	I was asked what I was going to do but after that no. I didn't the only thing I got was another pregnancy test to make sure that everything was gone […] that was my first time and whether I was aware of what was	**10**

Themes	Extracts		Number
		going on or not you're still thinking… because I I was thinking is it going to hurt or whatever you know. So so you're worrying so it wasn't the best time.	
	Megan	Yeah tablets. Erm but er but when I was there I was awake the whole time I was there they could have spoke to me beforehand about counselling and stuff, they didn't offer me any of that […] They just said do you use contraception and I went 'No' and they went 'Oh, well speak to your doctor'.	
	Lauren	No none of the nurses did. None of them asked whether I was gonna have any more children. None of the questions like that.	
	Hollie	Yeah, yeah they did suggest quite firmly that I had some sort of… they wouldn't let me leave. So I decided on the implant that time […] didn't really have much choice. There was a bit of paper with all these different things on there and I said 'yes, I'd like the implant'. 'Yes, yes - you will have the implant'.	
	Sophie	No one told me anything. No one helped me, no one said 'right if you go home you know go rest and then come and talk to someone' No one said that.	
	Sarah	Erm so going back to the [family planning clinic] they talked about you having the coil fitted. Yeah I'm having it in four weeks.I'd never really been told much about that before. I thought it was like really I don't know… not surgery to have it put in but like a bit more intrusive than what it is. And I thought it was a lot bigger. They showed me a little thing of it and I thought it was going to be like that (gestures size) and they showed me it and it was like that (gestures size). I was like 'OK'. Erm and I think with that because it's… you can't forget, you can't… it's in there if that makes sense.	
	Lucy	They just… when I went to the clinic… first of all they just gave me things to have after the operation cos I said I wanted to have contraception.	
	Hannah	Erm they rang me a few weeks… a few days afterwards to check I was alright and the ongoing they kept ringing me to make sure everything was fine. I got told about different contraception's. I was gonna get one but then my phone broke and I lost all the numbers to the hospital been ringing me on and I kind of just forgot about going to an… arranging an appointment.	
	Chloe	The family planning clinic had talked to me about the contraception, and then they erm made me a prescription to get the pill. So then I got that when I was in the hospital, so yeah, they talked to me a bit about it [provided contraceptive pill at hospital]	
	Emma	Yeah, they've said, "It's best if you have something put in place, so you don't have to go through this again.	